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Medical Times

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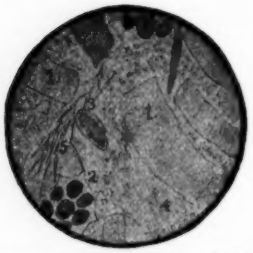

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Meeting of the American Medical Association

The annual meeting of the American Medical Association will be held in Atlantic City, New Jersey, May 26-29. Opening sections will be called to order the evening of May 26th by Dr. W. A. Pusey of Chicago, the president. The addresses of welcome will be delivered by Dr. L. F. Donohoe, President of the Medical Society of New Jersey, and Dr. D. Ward Scanlan, President of the Atlantic County Medical Society. Dr. William D. Haggard of Nashville, the president-elect, will be installed and will deliver the presidential address.

The work of the scientific sections will commence May 27th and will continue through three days, these sections include the practice of medicine, general and abdominal surgery, obstetrics and gynecology, ophthalmology, laryngology, othology and rhinology,, disease of children, pharmacology and therapeutics, pathology and physiology, stomatology, nervous and mental diseases, dermatology and syphilology, preventive and industrial medicine and public health, urology, orthopedic surgery, gastro-enterology and proctology and miscellaneous topics.

Lack of space prevents the publication of the entire program but there is being submitted herewith the program of several sections which will be indicative of the type of papers to be read.

The technical exhibits will be participated in by 140 firms and they will occupy 33,000 square feet of space on the new Steel Pier. Very many of the leading firms of the country are represented and they will show books, clothing, foods and beverages, instruments and apparatus, optical instruments, pharmaceuticals, biologicals, x-ray and electro-therapy apparatus.

The 1925 meeting bids fair to excel all other previous conventions.

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Wednesday, May 27—9 a. m.

The Causes of Peptic Ulcer.
R. MANNING CLARKE, Los Angeles.
Discussion to be opened by JULIUS FRIEDENWALD, Baltimore, and MARTIN E. REHFUSS, Philadelphia.
The Function of the Liver (Lantern Demonstration).
WILLIAM J. KERR, San Francisco.

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Splenectomy in Cases of Banti's Disease (Lantern Demonstration).
NATHAN ROSENTHAL, New York.
Incipient Hypothyroidism: A Clinical Study (Lantern Demonstration).
WILLIAM H. HIGGINS, Richmond, Va.
The Pathogenesis of Exophthalmic Goiter (Lantern Demonstration). H. T. HYMAN, New York.
Basal Metabolism in Clinical Medicine (Lantern Demonstration).
HENRY S. PLUMMER, Rochester, Minn.
Discussion on Papers of DRS. HIGGINS, HYMAN and PLUMMER to be opened by LEWELLYS F. BARKER, Baltimore, and JAMES H. MEANS, Boston.

Thursday, May 28—9 a. m.

Chairman's Address: The Growth, Development and Prognosis of Diabetic Children.
ELLIOTT P. JOSLIN, Boston.
The Causal Mechanism of Diabetes Mellitus (Lantern Demonstration). ALBERT A. EPSTEIN, New York.
Discussion on Papers of DRS. JOSLIN and EPSTEIN to be opened by F. M. ALLEN, Morristown, N. J., and REGINALD FITZ, CHARLES H. LAWRENCE and A. W. ROWE, Boston.
The 1923 Kansas Epidemic of Infantile Paralysis: Final Report. REXFORD L. DIVELEY, Kansas City, Mo.
Treatment of Bronchial Asthma (Lantern Demonstration).
ALBERT H. ROWE, Oakland, Calif.
Discussion to be opened by ISAAC C. WALKER, Boston.
Spirochetal Pulmonary Gangrene with Specific Treatment (Lantern Demonstration).
B. S. KLINE and S. S. BERGER, Cleveland.
Discussion to be opened by JOSEPH SAILOR, Philadelphia.
Pulmonary Tuberculosis, Prolonged Rest and the Absorption of Deposits (Lantern Demonstration).
GERALD B. WEBB, Colorado Springs, Colo.
Discussion to be opened by F. M. POTTENGER, Monrovia, Calif., and LAWRASON BROWN, Saranac Lake, N. Y.

Friday, May 29—9 a. m.

Election of Officers

Nonsyphilitic Aortitis. LESTER NEUMAN, Washington, D. C.
Hypodermic Digitalis Preparations: A Clinical Study (Lantern Demonstration).
HAROLD E. B. PARDEE, New York.
Discussion on Papers of DRS. NEUMAN and PARDEE to be opened by WILLIAM S. THAYER, Baltimore, and CARY EGGLESTON, New York.
Is Arteriosclerosis a Hereditary Constitutional Disease? (Lantern Demonstration).
M. A. MORTENSEN, Battle Creek, Mich.
The Dietetic Factor in the Etiology of Renal Disease (Lantern Demonstration).
L. H. NEWBURGH and P. L. MARSH, Ann Arbor, Mich.
Clinical and Experimental Renal Deficiency (Lantern Demonstration).
FREDERICK M. ALLEN, Morristown, N. J.
Chronic Nephritis (Lantern Demonstration).
HENRY A. CHRISTIAN, Boston.
Discussion on Papers of DRS. MORTENSEN, NEWBURGH, MARSH, ALLEN and CHRISTIAN to be opened by W. W. PALMER, New York, and W. D. SANSUM, Santa Barbara, Calif.

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MEETS IN MUSIC HALL, OCEAN END OF STEEL PIER

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Wednesday, May 27—2 p. m.

The Unknown Mortality in Surgery.
BERTRAM M. BERNHEIM, Baltimore.
Unperforated Ulcers of the Terminal Ileum, Symptomatically Simulating Appendicitis (Lantern Demonstration).
J. SHELTON HORSLEY, Richmond, Va.
Hypertrophic Pyloric Stenosis: A Study of Five Hundred Cases. RICHARD WALKER BOLLING, New York.
Amebic Abscess of the Liver: Report of Case Complicated by Subphrenic Abscess.
ALEXIUS MCGLANNAN, Baltimore.
Acute Conditions Within the Abdomen.
JOHN WOODSON BARKSDALE, Jackson, Miss.
Management of Esophageal Strictures (Lantern Demonstration). JOSEPH RILUS EASTMAN, Indianapolis.
Atypical Toxic Thyroid (Lantern Demonstration).
J. EARL ELSE, Portland, Ore.
Present Day Surgery of the Thyroid (Lantern Demonstration).
JOHN DE JARNETTE PEMBERTON, Rochester, Minn.

Thursday, May 28—2 p. m.

Chairman's Address (Lantern Demonstration).
EVARTS A. GRAHAM, St. Louis.
Pulmonary Tuberculosis: Its Surgical Treatment (Lantern Demonstration). EDWARD W. ARCHIBALD, Montreal.
Diaphragmatic Hernia (Lantern Demonstration).
CARL ARTHUR HEDBLOM, Madison, Wis.
Surgical Drainage in Infection of the Liver, Bile Ducts and Gallbladder (Lantern Demonstration).
ANDREW STEWART LOBINGIER, Los Angeles.
The Alteration of Bile Pigment Metabolism in Biliary Tract Infections (Lantern Demonstration).
GEORGE P. MULLER, I. S. RAVDIN and ELIZABETH RAVDIN, Philadelphia.
Surgical Procedures in Jaundiced Patients (Lantern Demonstration). E. STARR JUDD, Rochester, Minn.
Purpura Hemorrhagica Considered Surgically.
ALLEN O. WHIPPLE, New York.
Total and Subtotal Restoration of the Nose (Lantern Demonstration). VILRAY PAPIN BLAIR, St. Louis.

Friday, May 29—2 p. m.

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Recurrent Dislocations of the Shoulder.
T. TURNER THOMAS, Philadelphia.
Determination of Local Compression as an Indication for Laminectomy in Acute Injury of Spinal Cord.
CLAUDE C. COLEMAN, Richmond, Va.
Excision of Cancer with the Cautery: End-Results in Seven Hundred Cases (Lantern Demonstration).
ARTHUR CARROLL SCOTT, Temple, Texas.
The Late Results of Some Nerve Injuries.
DEAN LEWIS and EDWIN M. MILLER, Chicago.
Subtotal Gastrectomy (Lantern Demonstration).
JOHN B. DEAVER, Philadelphia.
Complete Gastrectomy. JOHN M. T. FINNEY, Baltimore.
Surgery of the Upper Abdomen: Special Points (Lantern Demonstration). GEORGE W. CRILE, Cleveland.

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Wednesday, May 27—9 a. m.

Tuberculosis of the Vagina (Lantern Demonstration).
Lawrence R. Wharton, Baltimore.
Isthmospasm of the Fallopian Tube (Lantern Demonstration).
William T. Kennedy, New York.
Discussion to be opened by I. C. Rubin, New York.

Friday, May 29—9 a. m.

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SYMPOSIUM ON POOR SURGICAL RISKS

Poor Surgical Risks: Laboratory Assistance in Preparation for Operation and in Postoperative Care (Lantern Demonstration). William Thalhimer, Milwaukee.
Abdominal Surgery in Patients with Diabetes (Lantern Demonstration). Daniel Fiske Jones, Boston.
Reducing the Surgical Risk in Some Gastro-Intestinal Conditions (Lantern Demonstration).
Thomas G. Orr and Russell L. Haden, Kansas City, Mo.
Abnormal Functioning of the Liver.
William J. Mayo and Waltham Walters, Rochester, Minn.
The Poor Risk for Surgery of the Pelvis.

Distribution of the Ovarian Follicular Hormone in Human Genital Tissues (Lantern Demonstration).
Edgar Allen, Columbia, Mo., and J. P. Pratt, Detroit.
Discussion to be opened by Emil Novak, Baltimore.
The Average Sex Life of American Women and the Relation Between Experiences and Genital Findings (Lantern Demonstration). Robert L. Dickinson, New York.
Dilation of the Ureter and Kidney Pelvis During Pregnancy (Lantern Demonstration).
Herman L. Kretschmer and N. Sproat Heaney, Chicago.
Radium Treatment of Carcinoma of the Cervix Uteri: Results at the Women's Hospital, New York, After Five Years (Lantern Demonstration).
George Gray Ward and Lillian K. Farrar, New York.

Thursday, May 28—9 a. m.

Chairman's Address: The Ideal Relationship of Obstetrics-Gynecology to General Surgery and the Surgical Specialties. Rudolph W. Holmes, Chicago.
The Surgical Treatment of Varicose Veins of the Female Pelvis (Lantern Demonstration).
Ludwig A. Emge, San Francisco.
Discussion to be opened by John O. Polak, Brooklyn.
Centric Puerperal Palsies.
James E. Talley and Dorothy L. Ashton, Philadelphia.
Discussion to be opened by James R. Hunt, New York.
Intracranial Hemorrhages in the New-Born (Lantern Demonstration).
William Sharpe and A. S. Maclaire, New York.
Pelvimetry of the Superior Strait by Means of the Roentgen Ray (Lantern Demonstration).
Herbert Thoms, New Haven, Conn.
The Ischial-Ramic Diameter: The Origin of the Common Left Cervical Tear and Its Prevention (Lantern Demonstration). John P. Gardiner, Toledo, Ohio.
The Treatment of Hyperemesis Gravidarum by Intravenous Injections of Glucose, and Carbohydrate Feedings (Lantern Demonstration). Paul Titus, Pittsburgh.
Discussion to be opened by George W. Kosmak, New York.
John G. Clark, Philadelphia.
The Preparation of the Surgical Handicapped Patient, with Special Reference to Vital Capacity.
John L. Yates, Milwaukee.
The Value of Organized Surgery to the Poor Surgical Risk.
Frank H. Lahey, Boston.

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Wednesday, May 27—2 p. m.

Chairman's Address (Lantern Demonstration).
Edgar J. Huenekens, *Minneapolis.*
Treatment of Whooping Cough by Roentgen Ray (Eight Hundred Cases). Lawrence W. Smith, Boston.
Value of Spinal Drainage in the Treatment of Acute Poliomyelitis (Lantern Demonstration).
J. C. Montgomery and W. C. Cole, Detroit.
Neonatal Pyelitis (Lantern Demonstration).
Louis W. Sauer, Evanston, Ill.
Observations During the Last Ten Years on Pneumonia (Lantern Demonstration).
Rudolph D. Moffett, New York.

Thursday, May 28—2 p. m.

Ketogenic Diet in Epilepsy (Lantern Demonstration).
M. G. Peterman, Rochester, Minn.
Treatment of Intracranial Hemorrhage in the New-Born.
Clifford G. Grulee, Chicago.
Incidence of Thyroid Enlargement in Eleven Thousand Children of School Age. L. H. Goldberger, New York.
Study of the Spinal Fluid in Negro New-Born Children.
M. Hines Roberts, Atlanta, Ga.

(Concluded on page 126)

Cancer's Last Century

HARRISON TAYLOR CRONK, M.D.,
New York

This paper, ninth in series appearing exclusively in the MEDICAL TIMES, deals with the cancer subject from a historical angle and follows into an immediate future worthy of medicine's best thought. Reprints of the previous eight papers being no longer available the reader interested in this modern discussion of cancer is referred to the publisher for back copies which will be provided until files are exhausted.

A hundred years ago, Samuel Cooper, Surgeon of the Forces, Member of the Royal College of Surgeons, etc., etc.; told in *A Dictionary of Practical Surgery*, all that was known about cancer in that day.

Personal observation formed much of Cooper's text, but he did not scant the opinions of his compeers. He freely quoted Mr. Abernethy, Mr. Pearson, Sir Everard Home, Dr. Baillie, Mr. C. Bell, Sir Astley Cooper and other contemporaneous authorities on the malignant subject dealt with.

This old-time text book tells us:

"cancer is a disease which is local in its origin" and "cancer is not a disease which immediately takes place in a healthy part of the body; but one, for the production of which it is necessary, that the part should have undergone some previous change, connected with the disease."

To quote many further excerpts from medical lore of a century ago would be a work of delight if space permitted. We will forego extension in that direction, however, though we must include one glowing quotation from Samuel Cooper:

"By some of the old writers the causes of cancer were referred to the presence of worms which destroyed the parts and produced all the local mischief."

The following from Sir Astley Cooper's pen, credited to Lancet Vol. 2, p. 378 is also permissible:

"Although the disease operates in some particular part of the body, it is always preceded by a state of constitution which has excited it. He who looks at this disease in the light merely of a local affection, takes but a narrow view of it. A blow or a bruise, inflicted on a healthy person, would be followed by common inflammation only, which would lead to the removal of the matter effused. But, if a blow were received on the breast, when the constitution were disposed to the formation of scirrhous tubercle, it would be the cause of a particular action being excited in the part injured, and might lay the foundation of this complaint,—yet, the formation of scirrhous tubercle does not entirely depend on constitutional derangement; there must be also a peculiar action excited in the part."

Reduced to few words, cancer as told about in the old days, was believed to be due to some specific cause, acting on a fertile soil, site being determined by injury or constant irritation. It is well to remember that as we progress.

* * * * *

A half century elapses and we find Cohnheim to the front with his hypothesis on the embryonal origin of tumors. Cohnheim suggested the exciting cause of malignancy to be an awakening to active growth of misplaced bits of embryonal tissue.

Such tissue, misplaced in uterine life and long dormant in human existence after birth; under this theory became spurred to violent activity with cancerous growth as its exhibition. Inherent cell madness thus became a supposed causative factor to cancer existence.

Virchow came along at this same period with his irritation theory. There was nothing new about that. It had been considered ages before. Virchow merely added the significance that goes with high placed sponsorship; and when we consider that in the light of our American skies, it wasn't so very high except as ignorance and silly idol worship gave it place.

Since the days of Cohnheim and Virchow, nothing of major import has happened in cancer's annals. Pitiful examples of grasp for glory have shot like comets over medical horizon—and been buried deep in the forgetfulness of failure. Present radiation effort is lending example of the rise and fall of medical fashion with all the sorcery of a dead Mesmer's energy.

* * * * *

Today's surface knowledge concerning cancer is just about what it was either fifty or a hundred years ago, with the older years having the better of the argument. We know that cancer is a localized lesion in its beginning, characterized by spread of local foci from a parent site under favorable duration; and that in no sense can it be classed as a systemic disease save as general metastatic diffusion may furnish a picture based upon distribution of infection from an original site.

Eliminating the mad-cell thesis of Cohnheim, we are compelled to view the focal center of the disease as a development from extrinsic cause just as did the men of a century ago. We know that in cancer as in other diseases, certain contributing factors incite to existence. Among them are points of vulnerability, whether created by slow, repeated irritation or a single violence. We also know that pregnable soil cuts much figure.

Extrinsic cause of disease has its parenthood in the invasion of microscopic forms of life upon a human host. From such presences, working upon vulnerable point in fertile soil, arise the numerous diseases which we tag and label according to our ability to fix and cultivate and stain the germs to which we ascribe the particular disease. Herein lies one of medicine's great glories.

Yet that glory shines with less effulgence when we consider that during all this long period of profitable bacterial research, there has existed under the same eyes and in the same field, other microscopic presences which have not had the same study pursued upon them as have bacteria, merely because they were more elusive and less tractable to research.

These forms of germ life—the protozoa—without question are disease provokers, as syphilis and malaria testify. No one will deny that. With existence of such a great microscopic field teeming with strange life of which we know so little, we do not have to employ miracle plays like that of Cohnheim to justify the being of cancer, infantile paralysis, measles, influenza and many other diseases of whose origin we are still so ignorant.

* * * * *

Turning to what is doing today in circles of supposedly higher cancer knowledge, we find experienced surgery casting a baneful eye upon operative procedure. Surgery has indeed proven an insult to powerful malignancy's presence. Retort to its employment has too often been a quickened fatality that shows it to be "bad medicine."

Good reason exists for such fire-fanned result of operation. I am not an "endocrinologist" but do maintain the ductless glands to be exceedingly important factors in life. Injudicious use of radiation upon abdominal malignant lesions with destruction of the adrenal capsules and death caused by extirpation of their function

rather than from the malignancy treated, is medical exhibition of putting a loaded gun in a child's hand.

Surgery has played quite as destructively. A breast removed and with it the axillary tail including the enlarged glands of the axilla, makes common illustration. Why does the surgeon remove these glands? They are swollen! Why are they swollen? The surgeon, and always the pathologist, answers—"because they are infected and are exhibitions of metastasis."

Regardless of pathology's opinion, the physiologist retorts "Those glands are fighting forces, made strong and large by need of extra effort put forth by Nature to combat an invader. Isn't it better to preserve them than to destroy them? Aren't the lymph and its organs constructive forces for health?"

Same thing occurs when for extirpation of cancer of the cervix, complete hysterectomy is performed. Cancerous lesion is in the cervix uteri. There may exist glandular involvement as mentioned in the preceding two paragraphs. But why remove the ovaries? The ovaries under enlightened knowledge may perform some function of general welfare through a re-absorption of secretion quite beyond their primary ova-bearing duty, as wise men now are beginning to believe.

So surgery, among its most intent minds, has said to itself—"Why remove fighting forces just because we have a knife in hand, and yet expect to win the fight against death?" Experienced surgery is very right about that. It becomes more right as it ceases to operate at all.

As to the present foolishness of radiation employment, perhaps the least said, the better it will be for medicine. Let us beware lest astute minds of an intent adverse to medicine, seize upon the charlatanism within medicine's ranks and proceed much further in public esteem than have the osteopath and chiropractor. Radiation "causes" cancer under the theory of the irritationists and "similia similibus curantur" was once thought out of vogue.

* * * * *

Cancer is a localized lesion, the exhibition of an invading germ force which finding vulnerable seat for lodgement, multiplies and grows in direct ratio with lack of physical resistance to dislodge it.

The germ cause of cancer is the protozoon Trichomonas or some animal parasite closely akin.

This protozoic cause is ever-present in the human organism. Like the bacterium staphylococcus, it only waits upon vulnerable point of attack to exhibit its potency for ill.

Staphylococcus, existing freely upon body surfaces and finding proper soilage, bores into a hair follice with pimply result. The protozoon, more deadly in its powers, waits longer for its soilage, but once implanted is more difficult to unseat.

Cancer's soilage is that state of acidosis which years of improper living bring to most who have passed the age of fifty. The same state can and does exist among infants, adolescents and those of prime manhood though from differing incitements.

Unhappy combination of the factors of acid soilage, spot-irritation and exciting germ cause, creates malignancy at any age.

Regardless of age then, we are confronted in the medical treatment of cancer with three factors, two of which (acidosis and the germ) we can happily begin to control; the third (irritation) being easily controllable except as hidden injury as in fracture, may prevent through concealment. The last fortunately is minor.

Accordingly under cancer's presentment, unless stage of acidosis is beyond repair or devastation by cancer inroad has progressed beyond the balance of physical resistance; we may hope to win the fight by combined employment of two methods.

These methods are—(1) food regulation whereby a diet rich in base elements counteracts accumulated acidity and transforms the tissues into a healthful condition of alkalinity, resistant to the invading protozoic presence; and (2) a medication injected into the tissues for absorption into the blood current which though innocuous to normal life functioning is parasiticidal in its effect upon the causative germ presence whether at site of main lesion or in metastasis.

The first means heavy preponderance in diet of fruits, vegetables and milks over the more customary meats, fish, eggs, cereals, tea and coffee of ordinary unconscious habit.

The last means employment of an intra-cellular injection (not intra-muscular or intra-venous) of such parasiticidal efficiency as has been described in a past series of papers in the MEDICAL TIMES and which for purpose of identification has been arbitrarily designated as A-O.

* * * * *

Investigative time leads us to certain reform of older idea. Cancer is surely a disease of infection. It is not contagious or hereditary except as fertility of soil plus spot-vulnerability affords opportunity for seatment and subsequent growth.

Under favoring condition cancer *is* as hereditary as is tuberculosis. It *is* as communicable as is tuberculosis. There *are* families where cancer rages because of existent causes of proper soilage. It *is not* contagious in the sense that epidemic diseases are contagious, but it *is* contagious in that every living soul of us harbors the protozoa which under favoring conditions of soilage creates cancer.

Preventive treatment of cancer therefore rests in eating and living rightly to the thwarting of acidosis, a subject which will be dealt with more exhaustively at a later time.

Curative treatment consists of alkaline upbuilding plus the use of a circulatory parasiticide (A-O) which will destroy germ cause.

* * * * *

The potency of the human mind when well directed, is a curative factor of vast importance. This knowledge used by the charlatan, often effects cures as substantial as the more scientifically directed action of the psychiatrist.

Putting that to one side, this factor must appeal to the intelligent. When the cancer patient knows there is a specific cause for his affliction, however desperate be his condition, and when he knows that a large part of the battle is up to him; there at once is born within him a battling confidence which puts him shoulder to shoulder with his medical adviser and creates an espirit de corps which never could exist under that mystery of medicine which left cancer in that domain where medical superstition has so long held it.

12 Fifth Ave.

Internal Secretion of Bone Marrow

That the bone marrow has an internal secretion was the opinion of Heidenhain, who implicates in this connection the giant cells found in the red marrow and which are provided with a nucleus of quite considerable proportions. Léopold-Lévi, alluding to this subject in his "Opothérapie Endocrinienne" (page 142), remarks that Donzello believes pernicious anemia to be referable to an incretory insufficiency of the bone marrow. Therapeutically, bone marrow is indicated in (a) diseases involving the red and the white blood corpuscles, *e. g.*, anemia, chlorsis, pernicious anemia, leukocythemia; (b) diseases of the bones (as rickets).—(*Endocrine Survey*, January, 1925.)

Arsphenamine Reactions

Improper Preparation and Storage of Distilled Water and Sodium Hydroxide

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The subject of reactions following the use of the various members of the arsphenamine group has received much consideration from a great many points of view. Those who have failed to comprehend the finer points about the technic of preparation usually resort to the time worn answer "undue toxcity." In fact this is the explanation always offered until conclusive evidence to the contrary is presented.

The method of preparing solutions of the arsphenamines, the distilled water, the alkali, the sodium chloride solutions, and their storage, seem so simple that even after ten years of instructive effort many avoidable errors of technic are committed. The one essential point to be emphasized is the necessity of continuously teaching technic in order to avoid the carelessness that develops with daily use of these drugs.

The incompatibility of the arsphenamine group with other chemicals is well understood by chemists, but this factor in a large measure is overlooked by clinicians and technicians.

Attention has been called to this subject as a result of a series of reactions occurring in several government clinics and two university clinics as well as in the hands of several private users. In each of these instances a series of reactions occurred spontaneously. The same control number of the drug was being used before the reactions occurred, during the brief period of reactions, and after the error of technic. It was presumed that no change in technic of the preparation of the solutions had taken place, but suddenly there appeared a large number of nitritoid reactions and phlebitis. At first these anomalies seemed to have no explanation.

In all chemical discussion concerning the arsphenamines, the effect of the presence of carbonates, carbon dioxide, carbon monoxide, moisture, sulfates, phosphates, and oxidizing substances is well known. In all instances they lead to physical and chemical changes in the drugs and therefore their presence is to be avoided as much as possible. Tap water in sterilizers and sterilizing syringes used for mercury injections are also to be avoided. In other words there are many substances which are incompatible with the arsphenamine series and they should always be considered in determining the cause of reactions.

Under these circumstances it is evident that proper attention is necessary in the preparation of all solutions and in the next instance care must be exercised in the method of storing these reagents. Clinically the arsphenamines are sometimes used under circumstances which invite reactions due to the following factors: Sodium hydroxide either in the form of a 15% solution or as a normal or 4% solution is properly prepared but due to careless storage it takes up water and carbon dioxide of the air. This weakens the alkalinizing properties of the alkali and increases the components incompatible with the arsphenamine. In many instances 15% solutions of sodium hydroxide are full of gelatinous sodium silicate. Glass bottles without ceresin lining are unsuited as containers for strong alkali for long periods. The same criticisms apply to improperly stored normal or 4% sodium hydroxide. The above reasons are sufficient to lead to a great many of the immediate reactions. The explanation of the manner in which they react will be found at the close of the article.

Sodium hydroxide in the form of sticks of known quality should be used. Determination of the carbonate content should be made before its use in the preparation of solutions. It is preferable to make a concentrated solution of the alkali and allow it to stand in a closed container so that the carbonates and other insoluble material may settle out. Then pour off the supernatant portion and prepare the normal or 4% solution. This should be checked against standard acid and stored in closed containers to prevent contamination with gases (carbon dioxide, etc.), water, and contact with glass. After years of observations it has been found that normal or 4% solutions of sodium hydroxide are the *safest* from every consideration.

Distilled water seems such a common article for use that the importance of proper care in its preparation and storage are entirely overlooked. Failure to keep the water sterile and exposing it to gases are factors frequently overlooked.

Distilled water for use with the arsphenamines should be *freshly* prepared by means of a good, clean apparatus for distillation. It should be collected in clean containers and in a room free from dirt and gases. Immediately after it is collected a plug of cotton should be inserted in the neck of the Erlenmeyer flask, a piece of gauze tied over the neck and the water boiled until steam escapes freely. This water should be cooled to 30° C. or about 70° F. before it is used. If it is necessary to store it for several hours, the water should be placed in a room in which there are no escaping gases, or products of incomplete combustion. In the instances cited below the water was stored for a couple of days in the room with the sterilizers and in all there were many burners being used continuously. Distilled water from ice plants, and from the common supply at drug stores is unsatisfactory for intravenous use of preparations which are to be dissolved in water. Water has a certain solution tension for gases and therefore it must be protected from those gases which will be incompatible with the drugs that are to be dissolved in it. In the preparation of arsphenamine solutions the water should be cold and this prevents possibilities of oxidation.

The suggestions presented above should be followed with scrupulous care in the preparation of 0.4% sodium chloride solutions that are to be used for diluting purposes. Sodium chloride used in this manner is an excellent means of producing distribution of the arsenical and thus obviating "localization effects" such as jaundice and dermatitis.

In Clinic A it was the custom to dissolve four grams of arsphenamine in 200 cubic centimeters of cold, sterile, freshly distilled water. To this 33.6 cubic centimeters of normal sodium hydroxide were added all at once. This produced the disodium salt. The alkali in this clinic is always standardized and was known to be absolutely correct throughout this period of reactions. The alkali was preserved in a closed bottle with an automatic burette. Under these circumstances it was protected from contamination. The water was usually freshly prepared but under the stress of a large clinic operation the technician decided to prepare plenty of water in advance. The water was sterilized in the usual manner and placed

on a shelf above the burners for future use. Three days later arsphenamine was dissolved by sprinkling the contents upon the surface of the water and the alkali was added in sufficient quantity for 4 grams of drug. Dilution produced a slight turbidity which disappeared upon standing. This solution was filtered but the patients complained of nausea and flushing of the face. This condition was unusual and titration of the arsphenamine was resorted to. Actual titration showed that it required 29.4 c.c. of the standard alkali to produce clearing or the monosodium salt. Under normal circumstances it should require only 25.2 c.c. Following the usual principle of adding alkali until the solution just clears and then adding *one-third* more, brought the amount up to 39.2 c.c. instead of 33.6 c.c. required for the disodium salt Adding the saline to this solution brought the alkalinity in terms of NaOH back almost to the monosodium salt which is responsible for many reactions. In spite of the fact that the arsphenamine was approximately in the mono-sodium salt stage, the solution was distinctly hyperalkaline in respect to the veins. This solution was unsatisfactory due to the formation of *sodium carbonate* which tends to throw arsphenamine out of solution in the form of the base, in other words, chemical incompatibility was responsible for physical characteristics of the solution which caused the reactions.

To further prove that this series of reactions was caused by the water being saturated with gases, it was boiled before using and cooled immediately and used in accord with the original technic, the drug being the same in all instances. No reactions resulted according to this procedure. A new supply of water freshly distilled and saline were used with no reactions. When water was again exposed to illuminating gas in traces, and the products of its combustion complete and incomplete, the same behavior of the arsphenamine appeared showing distinctly that it was a question of storage and unrecognized contamination.

After trying out the above combinations, the same control number of the drug and sterile freshly distilled water and saline were used without reactions. Under these conditions the arsphenamine titrated in the normal manner.

In the following table the amount of standardized alkali required for the monosodium salt and the disodium salt are given in columns 2 and 3. In columns 4 and 5 the corresponding amount required for the water in question.

Weight of Arsphenamine	C.C. of normal NaOH required for monosodium salt	C.C. of normal NaOH required for disodium salt	C.C. of normal NaOH observed for monosodium salt	C.C. of normal NaOH observed for disodium salt	
0.1	0.63	0.84	0.73	0.98	Unsafe to use this amount in conc. sol.
0.2	1.26	1.68	1.46	1.96	
0.3	1.89	2.52	2.19	2.94	
0.4	2.52	3.36	2.92	3.92	
0.5	3.15	4.20	3.65	4.90	
0.6	3.78	5.04	4.38	5.88	
0.7	4.41	5.88	5.11	6.86	
0.8	5.04	6.72	5.84	7.84	
0.9	5.67	7.56	6.57	8.82	
1.0	6.30	8.40	7.30	9.80	

It is unnecessary to analyse the water for its gaseous content as the result is too obvious when the water is added to a solution of arsphenamine.

On the basis of this observation it required 0.73 c.c. of normal sodium hydroxide to produce clearing or the monosodium salt for each decigram of arsphenamine. The usual amount of normal alkali required is 0.63 c.c. per decigram. To produce the disodium salt under the conditions referred to above 0.98 c.c. of normal alkali is required. Under these circumstances hyperalkaline solutions are used and they are the cause of phlebitis.

A simple experiment may be carried out by any observer. Dissolve a given amount of drug in distilled water, prepare the monosodium salt by careful titration, then blow your breath over the liquid and notice the turbidity result. This is brought about by the CO_2 of the breath, and this in turn is incompatible with the arsphenamine, the base being produced.

Mueller and Myers (1924) showed conclusively that the monosodium salt exerted a very marked action on the autonomic nervous system. Under the conditions cited above there is a toxicity or relation developed as a result of two main factors; *one, the action on the nerve centers of the autonomic system; two, the physical disturbance of the blood stream equilibrium.* There is present an excess of alkali but not of sodium hydroxide unless the fixed rule of "add alkali to the solution until it just clears, and then add one-third of the amount already used" is followed. Nitritoid reactions and phlebitis may result through failure of the proper storage of solutions and careful technic in the preparation of these products.

To conclude it is worth while to emphasize the preparation of distilled water especially in offices in which city water treated with chemicals is employed. It is necessary to avoid the volatile constituents contained in them. In many instances it is necessary to add a precipitating substance for the volatile constituents. Proper storage of alkali, saline, and distilled water are necessary in order to avoid many reactions. The solutions must be stored in an atmosphere free from carbon dioxide, illuminating gas, and other products of incomplete reaction. Failure to observe these points of technic often lead to "nitritoid reactions," and phlebitis caused by hyperalkalinization. Arsphenamine should always require 0.85 c.c. of normal alkali for each 0.1 gram of drug. The use of 0.4% of saline aids in distribution of the arsenic and prevents jaundice and dermatitis These last reactions may be alleviated with freshly prepared sodium thiosulfate. All arsenical solutions should stand 15 minutes in the cold.

644 Pacific St.

Lupus and Syphilis

Popper observes that cases of congenital combination of lupus and syphilis are more common than has generally been supposed. A differential diagnosis can often be made only after the discovery of spirochaetes or tubercle bacilli in sections of the infected skin. In some cases where the pathological conclusions are doubtful the diagnosis may be deduced from the results of antisyphilitic value, and also its appearance. Soft pulpy granulations or tubercles may be present; the "tuberculoid" picture with the changes indicative of lupus will be seen in the majority of cases. Judassohn was the first to recognize "lupoid" types in syphilis.

Nikolas and Favre have described typical cases of tertiary syphilis with actual tubercles or lupous granulations, in which each disease is indistinguishable clinically from the other.

Popper arives at the following conclusion: (1) Success in the treatment of "tuberculoid" forms of syphilis depends largely on the presence of a high degree of skin resistance or of attenuation of the specific virus. These conditions may develop after the failure of previous antisyphilitic treatment or in any syphilitic infection occurring at the same time as an infection by tubercle bacilli. (2) "Tuberculous" syphilis is found in those sites where skin infections by tubercle bacilli commonly occur. (3) The differential diagnosis of tertiary syphilis and lupus can seldom be determined by clinical observation alone. (4) The histological findings, which before treatment show characteristic "tuberculoid" tissue changes, later yield evidence of lowering of the abnormally high allergic condition; subsequent histological sections resembe those of tertiary syphilitic lesions.—(*Therm. Woch.*, Nov. 29, 1924).

The Relation of Public Schools to Public Health*

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Our public schools offer the largest opportunity we have for the spread of all kinds of disease, from mere colds to the more dangerous contagions.

Each day there are crowded and overcrowded into our schools approximately one million children. In many instances these children are packed into buildings to twice and three times the intended capacity of the building. The crowding in the halls at times is equal to a subway jam.

In the lunch rooms the number to be taken care of doubles and triples the normal capacity, and not only must the pupils eat their lunch standing in a jam, but necessarily the handling of food under these conditions lacks the care and caution that would be possible under normal circumstances.

These conditions offer almost ideal opportunity for the spread of any contagious or infectious disease, and it almost staggers the imagination to think what the results might be. At the time of the Black Plague in London, the city had a population of 450,000, of whom nearly 69,000 died. A plague of similar proportions in this city would mean the death of approximately a million citizens.

That threatened epidemics of influenza, infantile paralysis, etc., have not been permitted to spread through the public school channels to the alarming extent that would be entirely conceivable, is due to most creditable work on the part of those in charge of our schools. Instead of being channels for the conveyance of disease and death, our schools are in fact most successfully conveying health and life to hundreds of thousands. Not many years ago smallpox was a most dreaded plague, and at times was almost universal. Last year in this city of 6,000,000 there were only 12 cases. The practical elimination of this one time world plague has been made possible through the schools. All boys and girls must attend school at 7 years of age, and all boys and girls attending school must be vaccinated before admission. Thus, through the schools, it was possible to exercise the preventive measures which, within a generation, have practically made us exempt from small pox.

What has been done in the case of smallpox can and should be done along other lines. I am informed on creditable medical authority that diphtheria could be as thoroughly eliminated as has been smallpox if similar universal effort were made. In 1922, 15,000 children died from diphtheria. Congress last year appropriated a half million dollars for the special purpose of controlling hog cholera, having been stirred to this heroic action by the fact that in 1922 some 8,000 hogs died of that disease. The fact that in the same year 15,000 children died of diphtheria seems to have been considered entirely unimportant, for no appropriation and no measures were taken in behalf of the children. I do not begrudge the hogs the attention they are getting, but I insist that it is quite as important to use available means for the elimination of a disease that is strangling to death some 15,000 of our children per year.

In 1922 there were in this city 40,669 cases of measles, with 977 deaths. There were more fatal cases of measles than of scarlet fever, whooping cough, typhoid fever, infantile paralysis, and cerebro-spinal meningitis combined. This death of a thousand children in our city from measles could have been almost eliminated had we but made it our serious business in all the schools to be wisely and eternally vigilant to detect the first symptoms and at once to see that suspected cases were removed from school and received competent medical treatment.

In most of our schools there is at present no systematic, daily attempt to discover the appearance of infectious and contagious diseases among the children. This could easily be done and children appearing in school with the first symptoms of measles, influenza, etc., could be removed and hence its spread immediately checked. These cases then should be followed up by some system that would at once insure competent medical attention. The cases that prove fatal are those that are neglected through ignorance or some other cause. Parents fail to get a competent doctor even after the school has sent a child home with a note stating that a doctor's services are needed.

One of the biggest things that can possibly be done just now is to secure, through our school authorities, the establishment in every one of our large schools of a thoroughly competent and vigilant staff of health experts.

I am fully aware that this proposition will at once be met with the old familiar grumble about expense, but any such excuse is both morally and financially unsound. The fact is we have never yet expended for education an amount that is even to our credit. So long as we continue to spend more for luxuries, such as candy and chewing gum, than we do for education, it ill becomes any one to oppose any real educational improvement on the ground that we cannot afford the expense.

As a matter of fact, the adoption of sane and efficient health conservation methods in our schools would, in the end, save us money rather than add to our expense. The National Conservation Commission, appointed by Roosevelt in 1909, states that there are at all times seriously ill in this country approximately 3,000,000 people. This means an average loss through illness of 13 days for every person. This Commission also states that 42 per cent of this illness is preventable. In the same connection, Mr. Herbert Hoover asserts that the economic saving to the country through the removal of this preventable illness would be not less than $1,800,000,000. It would not be necessary to spend anywhere near $800,000,000 a year to establish in our schools and elsewhere the agencies for the elimination of this preventable illness, but even if we were to spend that enormous sum, we should still be actually saving in money the tremendous sum of a billion dollars a year. In addition to this saving in dollars, the National Conservation Commission asserts that such educational measures would result in an average extension

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of human life of fifteen years. The death rate in many rural areas is five times as high as in the city of New York. Normal conditions in these rural districts would tend toward longer life. The greatly reduced death rate in New York City is due entirely to the intelligent attention to the prevention of disease and the spread of information as to the conservation of health. This suggests how much has already been done, and also should encourage us to push further what has already been demonstrated a success.

Some one has suggested that when a community makes education compulsory, it thereby becomes responsible for the physical as well as the mental welfare of the child. If parents are compelled to send their children to the schools, then the schools certainly have no right to jeopardize the health of the child. The purpose of the school is to provide the best possible citizen for the state. Therefore, what is best for the child is best for the school and the state that provides the school. What shall it profit a child if he gain the whole world of knowledge and lose his own health. What shall it profit the state if its children are provided with information but lack the physical health to make use of that information.

A little something is being done along the lines which I have tried to suggest, but whether something or nothing is done is largely a matter of the attitude of the individual school. At Commercial High School every entering pupil is carefully examined as to heart, eyes, teeth and general health condition. So far as our facilities permit, such examination is given every pupil each term throughout his course.

Of the pupils entering Commercial High School last term 56% had defective teeth; that is, only 44% had teeth that were not conspicuously in need of attention. At the end of the term the 56% with defective teeth had been reduced to 12%, and some of these were in process of correction. This means that in this one school about 1600 pupils at present in the school have been induced to get their teeth attended to. If other high schools do equally effective work it means that some 48,000 pupils now in high schools have been induced to look after their teeth instead of letting them go.

Likewise, pupils coming to our school with tonsils, eyes, or heart in need of attention have had their parents' attention called to this condition and urged to see a doctor and get the wrong condition righted before more serious conditions set in.

Last term in Commercial High School 3153 pupils were examined by the teachers of our Physical Training Department, and of this number only 968 were found in satisfactory condition in all respects. I do not mean that all of the others—that is, 2185—had any immediate dangerous condition, but they all did have defects which might in time become dangerous, most of which could be easily remedied by getting and following at once proper medical advice.

I am bound to admit that the work that we do in Commercial High School in looking after the health if our future citizens is far from being all that it should be, and that what is done is done with deplorably inadequate facilities. Perhaps more and better work of this kind is done in some other high schools. I do know that in some other high schools practically none is done. Strong and constant pressure should be brought to bear upon our school authorities to provide adequate means, and competent teachers to insure healthy bodies as well as well stored minds in our city high school graduates.

Discussion

Mr. Howard W. Nudd: In discussing our public school system from the point of view of the health of the children, I should like to consider the subject from its physical, instructional and treatment aspects.

Professor Raynor has pointed out the effect of congestion in the large school over which he has control, and has said that a similar condition prevails in our school system as a whole. Without wholesome physical conditions, any consideration of health work in the schools seems practically ridiculous. If school buildings are allowed to remain in an unsanitary condition, with bad ventilation and bad toilets, or to cause undue strain on the eyes of pupils by bad lighting, we might just as well omit any consideration of health at all. In any health program we must start out with the assumption that school buildings are to be wholesome, or else be accused of attempting to lock the stable door after the horse is stolen.

In the past, our public officials have not realized the importance of this aspect of the educational problem. They have been actuated by ideas of false economy. I do not know of any real estate man, with thousands of dollars invested in apartment houses, who would spend practically nothing on their up-keep. If buildings which are in continuous use are neglected, first one thing starts to go, then another, each succeeding one more serious, until finally the entire structure is in process of decay. That is just what has happened in the past to our old school buildings. During the first three years of the present administration, for example, only one quarter of a million dollars was appropriated for the repair of old school buildings. During the past three years, however, the allowance has been much more adequate, over $3,000,000 having been allowed in the past year. But a larger sum must be devoted to repairs, not only for the immediate benefits that will accrue to the children, but because it will be cheaper in the long run to prevent the more expensive repairs which grow out of smaller things neglected.

From the standpoint of dollars and cents it is best to look beyond our noses. In Chicago, recently, I was talking to a gentleman who had built a large school in Kentucky. Across the stream from his grounds is situated a large reformatory institution. In asking people for money to build his school, his most convincing argument was to point to the reformatory and ask if they would prefer to spend their money for that or for his school. In the long run it is more expensive for taxpayers to pay for neglecting health conditions in the schools by providing hospital care and other corrective measures than it is to pay for wise prevention. The man who cannot see beyond the immediate dollar is a poor citizen, indeed, and very shortsighted. A wholesome place for the training of children is essential for public health as well as for public education.

After adequate physical facilities are provided, comes the need for instructing children and parents in the proper care of health and for providing wise treatment of outstanding problems. It seems to me that one of the things we have thus far failed to see clearly in education, though we are begining to see it in New York City in our experimental schools, is the fact that if we are going to educate children to the best advantage we must know something about them first. When I taught school in Philadelphia we used to register and classify children as they were enrolled in school somewhat as follows. Probably 200 registered in the first grade at the opening of a given term; the first 40 went to Room A, the next 40 to Room B, and so on, until five groups of 40 pupils each had been assigned to five teachers. Nothing was known about the mental or physical make-up of these children. They were divided up simply in the order of their registration. In the course of the following years one child after another succumbed under the strain of the educational program, which was uniform for all. Gradually there was a damming up of derelicts all along the way. Those who fell back from term to term were started over again in their grades and some of them fell back several times. This was not only a loss and a strain for the pupils but a tremendous waste of time, energy and funds for the school system. If we are going to educate children properly, it is obvious that, at the very beginning of their school life, we should learn more about them as individuals, and ascertain as far as possible their mental and physical capacity and their emotional nature, in order that the school program may be devised to meet their needs.

To use a comparison, children are not all of the same horse power; they cannot all take the same hills on high. If, in a race for Albany, for example, in which a number of cars of different makes and different power were entered, one should expect the same speed maintained throughout and the same results achieved by every automobile, there would be many breakdowns all along the way. Yet that is what we have been doing in our schools. We have assumed that children are all of the same strength, the same mentality, the same emotional nature and the same social

and economic background. But that is far from being the actual case. Children differ widely in all of these factors. They possess a wide range of horsepower, if you please. To do the most for them, we must know their horsepower at the beginning of the school race.

Some splendid experimental work has been done along these lines in New York. In Public School 64, Manhattan, for example, an effort was made to determine the capacities of children on entering school, and on the basis of this information to classify them with due regard to these capacities. It was sought to modify the strain on the less fit, not only by modifying the course of study, but by influencing the attitude of the teachers and of the parents with a view to giving the children, in school and out, only what they could safely carry without breaking down mentally, physically or emotionally. In a similar way the work of the school was adapted to the needs of the more gifted children, in order that they might be saved from careless habits and inspired to do their best. This method of dealing with children has sometimes been called a fad, a frill, a fancy, but it seems sensible to me, for the children progress more evenly, there is less nervous and physical strain, and, from the point of view of the teachers as well as the pupils, there is a distinct gain in every way.

One of the most interesting classes in that school was for neurotics—the emotionally unbalanced children who are problems not only to themselves but also to the teachers, and who frequently, under the traditional type of organization, disrupt an entire class. These children were brought together in small groups for intensive study and individual attention, and though the per capita cost was greater than if they had remained in larger classes with the other children, in the long run it was cheaper or rather more economical to the school system, to handle them intelligently in this way than to worry along with them, more or less helplessly, in the usual unenlightened manner.

Another interesting aspect of the problem was also considered in this school. After all is said and done, the school has the child for only five hours a day, for five days a week, during the months when school is in session. The longest school term is not over 200 days. The child is thus in school but one-eighth of his time and during the other seven-eighths is somewhere else —in the neighborhood or at home. The school is not the only place where the child is being educated. Every force he comes into contact with moulds him to some extent. We are spending approximately a hundred million dollars per year in educating children in the public schools of New York City during but one-eighth of their time, with the exception of training them for intelligent and efficient citizenship, and we have been ignoring what happens to them during the other seven-eighths of their time. After the five hours of daily instruction are over, we have been content to turn the pupils out to cope as best they may with whatever other forces there may be in the home and the neighborhood. These forces may be wholesome and strengthen the work of the school, or they may be unwholesome and practically undo it. The school has been largely uninformed as to their nature and little has been done to enlist them all in a cooperative program for the child's welfare during the entire twenty-four hours of the day. We have been putting a super-human task up to the schools when we have required them to educate children by going it alone. The school, home and community must work together more intelligently and continuously if the whole child is to get the most out of his educational experience.

An effort was made to cope with this problem in the school to which I have referred. As the children were examined, and their physical, mental and emotional makeup ascertained, a number were found to be potential problems, not in a vague way, but in a definite way. A physician could examine me and say, "I hear a heart murmur; it will be well for you to watch out for that, or in six months something will happen." Similarly many conditions exist in the mental and physical makeup of children which, if we could only diagnose them with some degree of accuracy and take the proper remedial steps, would save trouble later. Probably 25 per cent of the children reveal such symptoms; the rest could be expected to carry on fairly well. The parents of the children who evinced potential problems were made to understand these problems, and an effort was made toward securing their co-operation with the work of the school. With some children it was a question of diet, or a proper amount of sleep, or a sympathetic and helpful attitude toward them. With others it was a question of medical attention, bad companionship or improper physical conditions in the home. Whatever the specific problem, to the extent the co-operation of the home could be secured and the work within the school could be adapted to the children's needs, to that extent the children moved more normally through the grades than they did under the older system where the school went ahead more or less blindly on its own. It was thus a saving of economic as well as human waste.

It is quite obvious, therefore, that if we consider children as human beings, with bodies as well as minds, and with a social environment which is forever moulding them, we will have to take into consideration their physical, mental and emotional makeup in relation to their environment inside and outside of school and plan things accordingly, if we are going to make their educational experiences fully worth while to them. I recall, for example, that when medical inspection was first started it, too, was considered a fad. At first it did not mean much in the way of treatment for the individual children. A medical inspector—a physician—called at the beginning of the term, stationed himself in the hall and looked the children over as they passed by in a line. Then he jotted down something regarding each child on a card, and disappeared until the beginning of the next term. In a short time he had a magnificent collection of cards, but it meant practically nothing constructive for the children's welfare. I have a friend who says that civilization may eventually break down because of the card index system. Things are written down and nothing further is done about them. Too many people are recording things and too few are actually getting things done. The fountain pen, the typewriter and the filing drawers on wheels have so simplified the process of compiling records that we are hypnotized into writing things down and into thinking that we have thereby accomplished the real task. We need a card index system, but we must not forget that the real task is to do something for the individual child. Education would miss its real purpose if we were content merely to compile statistics about children en masse. The aim of all inquiries should be to make possible a better training of specific children. To do this we must not only know the capacities of each individual child, but provide specific treatment which will do most for that child. Even if this seems more expensive at first, in the long run it is more economical. An ounce of prevention is worth a pound of cure.

In the recent proposal to abolish dental clinics in the public schools we have had a striking example of false economy from the health point of view. This proposal has been advocated on the ground that the school is not the place for clinical treatment, but simply for instruction. If the parents want their children's teeth treated, it is maintained, let them go elsewhere—to private practitioners or to public clinics under the Board of Health. It is interesting, however, that the dentists themselves do not think the public school clinics are an encroachment on their practice. They believe that it is good for their profession to get children in the habit of taking care of their teeth, and that the school is the best place to have such habits formed. Not only is this a public spirited attitude for them to take, I believe, but in the long run it will greatly benefit the private practitioners themselves by providing an enlightened adult clientele. There is not much to be gained from persons who neglect their teeth. There is much to be gained, however, from those who have good teeth, take pride in them, and intend to keep them sound as long as possible. It does not help much merely to tell a child, "There is something wrong with your teeth; go and have them treated." The gain is in having a good habit firmly established which will last through life.

Similar examples might be cited to show the advantage of giving due recognition in school procedure to wise treatment of difficulties as well as to the establishment of sanitary physical surroundings and to the provision of health instruction in the curriculum. But I am sure that I have said enough to demonstrate my belief that the public school can be a great force in carrying out in more ways than one the spirit which pervades the modern movement of preventive medicine. This belief is based on economic grounds as well as humane considerations. As I have said, there are many people who will offer the objection that this is all wrong—an unwarranted expenditure of public funds—and that we should cut out such fads and frills to save the dollars. But I reply that we shall save dollars in the long run by spending pennies now in producing healthy and intelligent adults out of our children. An educational program which prevents later difficulties and enables everyone to achieve the best for himself and for society is an investment rather than an expenditure.

Dr. Henry W. Berg: Some of the subjects touched upon by Mr. Nudd attract me. I have been connected with hospitals for the treatment of children for a lifetime, and my interest in children is very great. I believe in looking after their health and their physical as well as their mental and social requirements. Believing there is knowledge of importance to the welfare of children to be derived from studying public school methods and statistics, I long ago studied item by item the annual budgets of the Department of Education for that reason, and also because these are the largest, as well as the most expensive of all the city budgets. Even twenty years ago, I found these budgets amounted to one-third the total costs of government paid for by the taxpayers in the City of New York. At the present time the schools cost us annually almost one-half the total amount derived from the collection of taxes. If we counted all of the

(*Continued on page* 124)

Therapeusis of the Bladder

VICTOR COX PEDERSEN, A.M., M.D., F.A.C.S.
New York

Treatment of the bladder varies with the form of disease present, and therefore one must consider the inflammations, ulceration, foreign bodies, neoplasms and abnormalities.

An accurate diagnosis must be made which must include not only a general examination of the urine but a special examination of the bacteriology until by smear and culturethe organism infecting the bladder is known.

It is no longer proper for a scientific physician to be satisfied with a statement by the laboratory that an organism is absent which the physician suspected as present. The definite meaning of this is indicated by the following facts out of an interesting case history.

For twelve or more years the author has had a case of prostatic hypertrophy of the low and slow grade which by massage and other conservative methods has been kept quiet and protected from operative measures. As the symptoms had begun to increase definitely and slightly more rapidly a cystoscopy was done with gentleness so great and ease so manifest that no local anesthetic was employed. Although the urine had been previously clear a much more positive and severe reaction to the cystoscopy followed than is usually seen in clean bladders. On investigation of the bacteriology of the urine the bacillus coli was found, which had arisen from the more or less positive constipation of the patient. Suitable urinary antiseptic and vesical lavage and an indwelling catheter removed the infecting organisms and cured the cystitis. If the bacteriology of this case had not been properly investigated the patient would have charged the author with and the author would have blamed himself for an incidental irritation and possible infection of the bladder, directly from the cystoscope. The explanation of many so-called symptomless hemorrhages in the urinary system lies in bacteriology of the urine.

Brief case reports of definite examples of the meaning of such analysis of the urine were given in a previous contribution on haematuria.[1] The former rule that cystoscopy should not be attempted during acute symptoms is largely abrogated through the developments into the realms of surgical safety through spinal anesthesia and through sacral and parasacral local anesthesia. It therefore follows that no form of bladder disease whatsoever should be treated without a cystoscopy. To deny this proposition is equivalent to saying that a dentist may treat the teeth without using his mirror or an internist may successfully manage heart and lung disease without his stethoscope. The prejudice against cystoscopy is founded not on knowledge of modern methods and fair judgment and recognition of their values, but on the occasional unfavorable case such as the one just noted, in which the real underlying cause is not the instrumentation but the bacteria already present in the urine. The time is here when other branches of medicine must accept the dictum of any other branch to the effect that special methods like cystoscopy are not materially dangerous. The parallel is that the general hazards of surgery are reasonably well known and accepted and in the same way the slight risk of advanced urinary diagnostics must be equally known and similarly accepted.

A definite field of usefulness of the cystoscope and the cystourethroscope is in the disseminate forms of cystitis in which the inflammation occurs in patches of various number, closely grouped or widely scattered localization, and of mild or severe subjective and objective symptoms. After the ordinary lavage of the bladder, in many patients under a local anesthetic, the cystoscope may be passed and mild applications made to these areas in very much the same manner as the rhinologist treats the mucosa of the nose and throat. Thus the principles of treatment remain the same, although the site of the disease is totally different. The bladder has the great disadvantage that the incessant delivery of urine into its cavity tends to augment the irritation already present in the lesions themselves.

Lavage of the bladder is in many respects a simple procedure, but if it is confided to nurse or attendant that person should be thoroughly trained in the following details. The passage of the catheter in patients with cystitis especially if acute is by no means easy, and therefore the hand must be trained to appreciate the resisting spasm of the sphincter muscle and to overcome it with gentleness and patience. The size of the catheter is of considerable importance. The range between the largest size which the urethra will carry but the sphincter refuse and the smallest size which the sphincter will not accept because of virtual pricking action is not a very large one. For example, irrigation of a moderately acute cystitis through a urethra of 28 F. caliber cannot be done with a catheter of the same size, and because of the said pricking action a 14 or 16 F. instrument will be refused whereas a 20 F. catheter is very apt to be successful. The physician is the one who should measure and order the right size of catheter and also in the opinion of the author should be the one who carries out at least the first half-dozen irrigations. After these a competent nurse or attendant may in many patients assume the detail of the lavage. Another point of equal importance is the actual cleansing of the bladder. Not only should the fluid itself be clear in a test glass, but if there are slugs and shreds the lavage should continue until their number is very greatly reduced. Until the bladder very greatly improves, it is frequently not possible to remove more than the larger slugs and shreds leaving the finer filaments to disappear as the case progresses favorably.

Simple ulcers of the bladder, single or multiple in occurrence, may be regarded as the more penetrating manifestations of disseminate cystitis. Like it they may be treated through the modern operation cystoscopes and cystourethroscopes after suitable intravesical, sacral and parasacral anesthesia. Gentle stimulation of the floor of the ulcers is often advisable with a mild high frequency current. Fairly active rubbing of ulcers may be undertaken with various instruments. Great caution must be exercised, however, not to injure the wall of the bladder. Punc-

[1] "Blood in the Urine." MEDICAL TIMES, Jan., 1925.

tures of the bladder by such manipulations are not common, but they do occur even with whalebone filiform guides and should therefore always be borne in mind. In all cases of ulcer, the bacteriology of the urine must be known because in most cases measures may be directed against any special organism. The average general practitioner does not know that for example the bacillus coli may cause superficial or deep, large or small, single or multiple, indolent or active ulcers of the bladder.

Nine years ago the author showed before the Section on Urological Surgery of the New York Academy of Medicine a female patient in whom the bacillus coli ulcers were so vicious that on opening the bladder they looked either like tuberculosis or early cancer, but the diagnosis was fixed by the presence of very large numbers of the bacillus coli. Fulguration followed by transplantation of one ureter from the trigonal segment of the bladder to the subperitoneal segment combined with drainage and other treatments have so restored the woman that after fully nine years she has still both kidneys and is in very good health.

Tuberculous foci and ulceration single few or many, descrete or confluent are of course recognized through the cystoscope alone, associated with due bacteriology of the urine and inoculation of small animals. Tubercles may with caution be removed for diagnosis provided the base left behind is gently cauterized both to stop hemorrhage and to limit the extension of the infection. More extensive signs of tuberculosis are usually managed according to their activity and response to treatment in the detail of such methods as thermocauterization through a tube which is always difficult because of indefinite control of the heat or electrocauterization with the high-frequency current through an operation cystoscope. Open operation and treatment through the wound is perhaps the method of choice because rest of the bladder is of great advantage in all these cases, nevertheless one must consider that if bacilli are numerous in the urine they are very apt to spread to the margins of the wound.

Fortunately, however, physical methods of treatment, especially of the electrotherapeutic type have come to the front not only to combat such inoculation but also to largely postpone surgical intervention. The x-ray ultraviolet light and radiant light in proper association, sequence, strength and duration of application are giving results which are almost surprising. Hence, the operator who does not invoke these methods partly in the foretreatment and partly in the aftertreatment simply does not live up to his best obligations to his patients. Not only do these several modalities directly sterilize the operative field against incidental extension of the disease over the cut surfaces, but also do they promote healing of the ulceration and of the wound itself to a very definite degree. Mass doses of the x-ray are probably passing out of favor in work of this type. The decision of scientists in this matter will undoubtedly be known in a rather few number of years.

Foreign bodies require the cystoscope for determination of presence and variety. A partial list would comprise small stones, pieces left behind after crushing operations, various parts of broken instruments, and last but not least instruments introduced accidentally during masturbation. Any woman coming with an unexplained irritation of the bladder should be cystoscoped to determine the absence of the proverbial hairpin which escapes from her fingers during these practices. The social standing and moral claims of the patients have nothing whatever to do with these cases because they will all falsify the facts until confronted with the statement that the hairpin has been seen in the bladder through the cystoscope.

The most remarkable foreign body which the author has had was the chewing gum shown on page 800 of his book on "Urology." The man was practicing masturbation and lost the chewing gum in his urethra. By an action very difficult to explain, the chewing gum worked its way backward into the bladder. The variety of instruments for removing foreign bodies is great, and cannot be detailed here, but the Chismore evacuator is a simple instrument of great value in sucking out small fragments of any nature whatever. Forceps or rongueres may be employed through operation cystoscopes with great advantage.

When one comes to calculi in the bladder the various forms of forceps, the cystoscopic lithotrite and the evactuating instruments are available. A most important detail is that after all these procedures a careful and repeated cystoscopy should be done in order to be sure that the last of the fragments is out.

Neoplasms of the bladder come next. Any growth which fulfills the four cardinal symptoms of cancer had best be left alone so far as cystoscopic treatment is concerned. The four cardinal symptoms are a growth, with ulcers or tendency to ulceration, hemorrhage or tendency to hemorrhage, and cystitis which is not easily controlled. The cystoscope offers so restricted a field of treatment that the open method of approach is to be preferred. Multiple papillomata of the bladder come within the same designation because without exception they are malignant. It is a very common experience to have the pathologist report that all the papillometa excepting one are benign. As a matter of fact the malignant growth is usually the parent growth so that the others would readily take on the same quality somewhat later and do behave in this way. Changes of the prostate gland belong to the catalogue of neoplasms and the prostatic bar contracted neck and nedunculated middle lobe of small size may in many instances be successfully treated with instruments of the cystoscopic type. There is a tendency now to use electrotherapeutic measures on these cases. Of course, if the bladder is much infected, the absence of proper drainage constitutes a reason for the open operation method, otherwise infection may follow by absorption through the open wound.

Abnormalities of the bladder are alone recognized and in some cases treated by the cystoscope. In this class must be placed slight abnormalities of the viscus in form, large or small, single or multiple, diverticula and variations in the size form and situation of the ureter. Multiple ureters are so common that one is not justified in omitting search for them in every case of irritable bladder which is not otherwise clearly explained. It must not be forgotten that stones in the diverticula are so common that various forms of investigation must be employed. A large size of ureteral catheter may be passed as far as possible into the cavity and irrigation from within upward practiced. Occasionally the stone will be washed up to the mouth of the cavity and be easily seen. After cleansing a wax-tipped catheter may be easily passed into the diverticulum with the hope that scratch marks will clear up all question. A use of the cys-

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Carcinoma of the Lung from the Kidney*

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For consideration the clinical and autopsy findings are reported of a man who died as a result of carcinoma, because of the—

(1) Difficulty of clinical diagnosis;
(2) Rarity of the lesion's location.

Medical Case Record No. 207-460; male, aged 62; weight, 138 pounds when he was admitted April 16, 1924, with the diagnosis of "diabetes mellitus and syphilis."

He complained of polydypsia, polyuria, nocturia, bulimia, weakness and a loss of 30 pounds in weight during a period of 2 years (suggestive of malignancy). He also complained of pain in the left chest, insomnia, cough and expectoration, and periodic swelling of hands and feet for one year.

Family history—Unimportant.

Personal history—Unimportant with the exception of "A chancre in 1893 for which he received two series of anti-luetic treatments."

Physical examination: Found him to be grey-haired, undernourished, and pale; pupils, "frozen"; neck vessel pulsations easily seen; slight bulging of the anterior upper chest, especially on the left; marked wasting of the muscles of the left shoulder and arm; left chest evidenced impaired resonance; decreased tactile fremitus; high pitched tubular breath sounds over the lower one-half; many coarse rales heard in the left chest.

A systolic murmur at the apex of the heart with a diastolic murmur at the right second intercostal space; there was marked unequality of the right and left radial pulse; blood pressure, 120/60, right and left; during his stay in the hospital his temperature course was practically one degree below normal.

Laboratory findngs: Urine—amount, 1200 to 2700 cc. in 24 hours; specific gravity, 1010 to 1020; a trace to 6 per cent of albumen. Microscopic examination, negative.

Blood: Hemoglobin, 70 per cent; red cells, 3,400,000; white blood cells, 13,000; polymorphonuclear neutrophiles, 85 per cent; lymphocytes, 15 per cent; Wassermann, negative (three times); blood sugar, 1.33 to 2; non-protein nitrogen, 3.1 to 4.0; creatinin, 1.2 to 1.4; uric acid, 2.5 to 7.2 on five observation. In 15 sputum examinations no tubercle bacilli were found. Spinal fluid Wassermann, negative. The leucocytosis was in favor of malignancy and against tuberculosis.

X-ray findings by Dr. R. C. Carter "Left thorax opaque throughout; left diaphragm, as indicated by the gas filled splenic flexure, very high, at the level of the anterior extremity of the fourth rib; heart displaced markedly to the left; the nature of the opacity is not determined. The high diaphragm and the displaced heart indicate either adhesion displacement or negative pressure in this region."

Paracentesis thoracica by Dr. H. I. Vener, secured only 2 c.c. thick bloody fluid repeated later by Dr. Geo. Nelson, with the same meagre success.

Clinical diagnosis included "cerebro-spinal syphilis," "gumma of left lung," "aortic aneurysm," "pulmonary tuberculosis," and "neoplasm in the left chest."

The *x*-ray ruled against aneurysm; active luetic treatment yielded no benefit; tuberculosis was fairly well ruled out by the absence of the characteristic temperature, the absence of the bacillus in the copious sputum, and the unilateral involvement. His progress was "from bad to worse" until death occurred October 11, 1924, on which date at 10:15 A. M., Dr. George D. Maner, summarized the autopsy findings as follows:

(1) tumor in pelvis of right kidney, histologically carcinoma;
(2) Large tumor in left upper chest and mediastinum, infiltrating pericardium, pleura, and intercostal spaces, destroying ribs and surrounding aortic arch;
(3) Adhesive shaggy pericarditis;
(4) Collapsed left lung;
(5) Active and chronic passive congestion of liver;
(6) Amyloid infiltration of liver, spleen and kidneys:
(7) Arterio-sclerotic contracted kidneys;
(8) Fibrotic atrophic pancreas;
(9) Few metastatic tumor lymph nodes in the right retroperitoneal space;
(10) Slightly enlarged prostate.

He gave the probable cause of death, carcinoma of the right kidney with metastases to left superior mediastium (pleura).

Here then we had a man with a renal pelvic cancer which not only failed to bleed sufficiently to be recognized during the six months on our service, but also failed to give any history of hematuria. We think this was the primary neoplasm. Dr. H. A. Rosenkranz, urologist, states (in a personal communication), "that a renal pelvic tumor may be present for years and not bleed." A safe estimate of one year duration for the mediastinal growth can be reckoned; surely during one year the renal tumor should have had recognizable hematuria.

Although primary carcinoma of the mediastinum has been reported,[2] I would consider it rare because carcinoma usually, if not always, begins its growth in acid media; the secondary growths usually grow much more rapidly than the primary.

In reference to renal carcinoma Kelly[1] states, "The first adult renal epithelioma reported was by Waldeyer in 1867. Starting in the parenchyma, the disease rapidly advances toward the capsule and pelvis; it is disseminated by the lymph and blood vessels early; that the growth rarely attains large size; striking microscopic characteristics is the arrangement of cells in masses without definite form although occassionally arranged in columns and cords, suggesting the tubular arrangement of the normal kidney; individual cells often show irregular karyokinesis."

Photo by Staff Photog. of Phila. Gen. Hosp.

Lung Carcinomatosis. Primary lesion not located.

That new growths of the kidney are rare Kuster's general statistics (Kelly) states, "only 23 cases in a series of 30,000 patients; many busy general surgeons go an entire year without seeing a single case. Only 90 cases in 3,600 autopsies, were found at the Massachusetts General and Boston City Hospitals. Of these, carcinoma in adult life is much more infrequent than hypernephromata." Wilson of Mayo's Clinic in his study of 92 renal tumors found 4 carcinoma of the renal pelvis. Bloch of Israel's Clinic found 4 carcinomas in 126 malignant renal tumors. Garceau—of the Massachusetts General and Boston City Hospital found 3 carcinomata in 90 specimens.

Baumgartner and Wright[4] write concerning carcinoma of the lung that "generally the cases are so far advanced when studied microscopically that it is difficult to say definitely what the origin was." They report four cases of infiltrating cancer of the lung; 3 adenocarcinoma and 1 alveolar tumor of squamous cells. Two, they thought to be of bronchial lining origin; one from the glands; and one from the alveolar epithelium. They conclude that "primary cancer of the lungs forms one per cent

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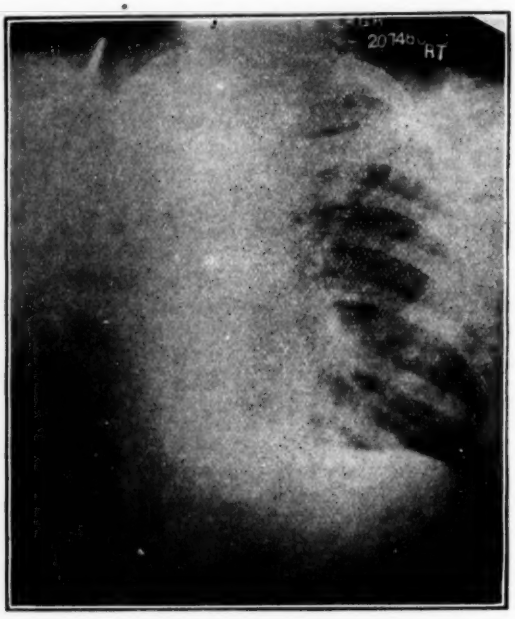
[1] Read at the monthly medical staff meeting, Los Angeles General Hospital, Jan. 26, 1925.
[2] From Dept. Int. Med. Ward, No. 230.
[3] Volume 2, Pages 230—Appleton's 1914.
[4] The Clifton Medical Bulletin, November, 1924—"Carcinoma of the Lung."



Courtesy D. R. Stanford.

Carcinoma Left Lung.

of all cancers; that pain in the chest with cough, more or less sputum, marked loss of weight and strength, or definite clinical and *x*-ray findings, should diagnose lung cancer; although fever is described as rare in lung carcinoma it was present in three of their cases." They further conclude that "patients over 50 with a history and findings as detailed above should have careful *x*-ray study; that with these positive findings, more and more cases will be diagnosed. Only by this and by learning to diagnose cases earlier may it become possible to do something surgically or by *x*-ray therapy."

From the renal specimen exhibited here, it can readily be seen that in a partial or careless autopsy it might be missed; therefore, a thorough-going autopsy is recommended so that a careful study may be made and conclusions drawn which may be valuable in reference to the study of not only the disease under question—but all others.

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Discussion

Dr. Nelson: This *x*-ray shows the opacity of the left lung, with the diaphragm coming up to the anterior extremity of about the fourth rib, and with a marked displacement of the heart and some peribronchial thickening on the right side. Dr. Carter said that it was not conclusive of anything definite, but that the displacement may be due to a negative pressure or to adhesions on the left side.

Dr. Rosenkranz: Dr. Shuman has presented the case in a very clear manner, and the fact has been emphasized that it is rather hard to diagnose by direct positive findings some tumors of the kidney. For many years, the diagnosis has been made by exclusion. I heard Dr. Stanley Stillman read a paper on hypernephroma in Fresno about nine years ago. He made the statement that diagnosis of tumor of the kidney must be made by exclusion. Since then urology has been developed to a greater extent, and in many cases the pyelogram, although sometimes unreliable, can nevertheless often be depended upon to diagnose directly a kidney tumor. I took out the kidney of a young man in this hospital about five years ago, and he had a carcinoma of the kidney which I diagnosed in a rather lucky manner by finding a small carcinoma in the bladder. I suspected that his kidney lesion was of the same nature, which it turned out to be. The tumor in the bladder was about the size of a large peanut. When I removed the kidney the pedicle was very infiltrated, as big as a pitchfork handle, with many large glands around it. I removed as many of the glands as I safely could, but the patient went back to Dr. Keyes, who used radium on him. I saw him some months later. He was going down hill rapidly, so I do not suppose that he is with us now.

I find that many cases of cancer run a temperature of a quarter of a degree or so above normal, and in this case the patient had a temperature around 99 degrees. I have only seen one primary cancer of the lung, and that was in the operating room of August Bier's clinic in Berlin. I entered the amphitheatre just as the surgeon was extracting this tumor, which was about the size of a large orange—a large, round, primary tumor. As I recall, it was malignant.

Tumors of the kidney we have found to be not so infrequent in this hospital. During the last six months' service I did some fourteen nephrectomies, several of which I believe were for tumors. The last one of them was a fibrosarcoma, a very rare tumor, which is not mentioned in some classifications of kidney tumors. As to whether a tumor is a sarcoma or a carcinoma, there is so much wrangling among pathologists that I have only been bored by them. Stork, of Vienna, and another pathologist have altogether opposite conceptions of what constitutes a hypernephroma. I am reminded of a noted pathologist who cut sections of a tumor in series, sending one to Dr. Benda, and one to Dr. von Hanseman, and one to another pathologist of Berlin; and one report came back labeled "carcinoma," one "sarcoma" and one "granulation tumor"! Authorities are not always clear-headed, nor do they always agree with one another, so it would seem idle to speculate extensively on tumor classification. "Malignancy" is sometimes as far as we can go in our diagnosis.

About ten years ago I removed a very large malignant tumor of the kidney, at the Methodist Hospital. The patient had hematuria, and the only previous hematuria he had ever had was twenty years before. The patient was 76 years old, so we are safe in saying that this patient had had his tumor for twenty years. Thompson Walker states that patients have lived as long as thirty years between hematurias. A large kidney tumor does interfere with the venous return from the testicle, it seems, and that patient had a very large variococele, and if I had borne that little point in mind it would have helped me in the diagnosis. The bleeding was so profuse that I could not catheterize the ureter on the affected side and I did not make the diagnosis prior to operation. I found on operation that although the tumor extended hardly below the twelfth rib, it extended almost up to his neck.

I do not think there is any doubt that this tumor was primarily in the right kidney. We always *x*-ray the lungs, because if there are metastases in the lungs the case cannot be benefitted by surgery. It is a fact that hematurias, regardless of the causes—whether caused by stone, essential hematuria, a tumor, or tuberculosis, etc.—may not bleed except at rare intervals, and therefore I would stress the necessity of always cystoscoping the patient while he is having his meaturia. If we wait until it has subsided, because we wish to spare the patient that inconvenience while he is having his hematuria, we may miss the diagnosis because we may hardly find red blood corpuscles in that patient's urine for perhaps another twenty years.

Dr. Schiffbauer: I wish to report one case. It is not a primary carcinoma of the lung, but a metastatic growth from the kidney. The man was 42 years old, a miner. Complained of pain in the chest on the left side, loss of weight and weakness. The present trouble began five weeks ago with cold. Had sweats and chills and cough. Coughed up frothy sputum. Sick in bed since then. Had sharp pains in left side when he breathed. Later had pains on right side which disappeared. Nothing in particular was done by the outside physician. Patient has lost 30 pounds in last five weeks. Has loss of appetite also. Has been getting weaker the past week.

Head: Eyes—negative. Ears—negative.

Cardio-respiratory: No palpitation. Pain over heart and left side of chest, sharp and radiating in character. Marked shortness of breath. Slight cough.

Gastro-intestinal: Practically negative.

Genito-urinary. Here is an interesting feature. No urinary trouble; no nocturia, dysuria, hematuria, pyuria or cloudy urine. Denies venereal disease.

Past history is also important. "Always in good health until present illness. No previous lung trouble." At the present time he has a marked cyanosis, dyspnoea, edema of right lung, failing pulse, left chest full of fluid to second rib. Measures to relieve heart and pulmonary edema, including thoracentesis. Withdrew 1350 cc. opalescent blood-tinged fluid, leaving dullness to 5th interspace ant. Well stood by patient.

The second thoracentesis was done and 1000 cc. were removed.

The patient died in the early morning of the 31st—two days after he entered the hospital.

Urinary examination was of interest, which was negative except albumin two plus and acetone one plus.

Diagnosis made at that time was "Neoplasm of the left lung or pleura." The autopsy, though, showed a primary carcinoma

of the left lung, very extensive, with massive involvement of the right lung and involvement of the pleura, with secondary growths in the right lung, and also a large number of metastatic growths throughout the liver, and also a few nodules in the heart. The interesting part of this case is that the man did not complain of any urine symptoms.

Dr. Kahn: As to the pathological diagnosis of primary cancer of the lung: I do not think the difficulty is so great in diagnosing primary carcinoma of the lung as it is in diagnosing what part of the lung the cancer arises from. There are certain characteristics of metastatic carcinoma in any organ, that usually identify it; the acuminate character is perhaps the outstanding feature. In an individual case, of course, it may be difficult to diagnose. An extensive infiltrating growth, more extensive and infiltrating than the surrounding metastatic lesions, or the acuminate lesions in other organs, is usually primary.

Dr. Rapaport: There is no question as to the correctness of the diagnosis in the case presented by Dr. Shuman but the references to carcinoma of the lung simulating any other lesion of pathology in the lung, characteristic of the lung, may be simply anything; it may even simulate pneumonia, aneurysm, etc. A case is reported of carcinoma of the lung in a hospital in Pittsburgh some ten years ago, where a patient came in with chills and fever, and a diagnosis of pneumonia was made. At autopsy it was found a carcinoma of the lung was breaking down and causing the chills and fever. There may be all kinds of lesions, of course—there may be a general carcinomatosis.

Dr. Blank: Dr. Ruddock's case was of great interest, because coal dust deposited in the lung occassionally causes great confusion, especially in the diagnosis of tuberculosis, but this patient had an irregular mass this way (illustrating on blackboard) and from here you could see on both sides the apices were more or less clouded. We did everything to compel ourselves to say that it was a primary carcinoma of the lung; but what was against it was that this mass was fairly sharply calcified, and it looked like an old mass that was calcified. The *x*-ray showed a very interesting picture that this was simply a condensation of particles of coal dust that had pushed ahead of the tumor everywhere. This picture was shown at the Radiological meeting and every one thought it was a carcinoma of the lung. Usually, in types of deposition of coal dust in the lung, it will be mistaken for miliary tuberculosis, as you know, and at other times there will be shadow bands of this kind (illustrating) which will cause confusion.

A second patient I just saw is of considerable interest, presenting symptoms of shortness of breath, enlarged heart and a pericardial effusion. On physical examination she had all the signs of something occupying the pericardial sac, with effusion, except that it was painless, and in a woman of 62 or 63 years old. Her *x*-ray picture showed over on the left side a perfectly clean-cut shadow, which was just about as I have shown there and which looked like certain pericardial effusion. Follow the pericardial sac down to about that point (illustrating) and you saw an irregular outline, as though it were a true filling defect in the pericardial sac, and back of this you saw a little muck and some branching lines. Now it is either a primary carcinoma of the pericardial sac or a primary carcinoma that has arisen in the lung. There was no autopsy.

Dr. Schiffbauer. This man I had the privilege of seeing was 51 years old—an elevator man—and he gave a past history of having a cold on the chest and later on developed a double maxillary infection. He had this infection for a period of six weeks. The doctor who was taking care of him said he had gotten a definite amount of pus.

At that time he went to another physician, who took an *x*-ray which showed a definite shadow in the upper right lobe, and the *x*-ray man made a diagnosis at that time of an abscess in the right upper lobe. Blood count a little over 22,000. He also had definite pain over the chest anteriorly, about the mid-clavicular line. I saw the man at this time and there was no difficulty, apparently, in permanently diagnosing an abscess in the lung, with an increase in the pulse. He had a temperature of 100.4, pulse 104, respiration 28. At that time I resected a rib anteriorly and removed 30 cc. of pus, and put in tubes, fairly confident I was going to the man some relief. His dulness increased posteriorly.

Another *x*-ray taken, which showed a little more extension, and the *x*-ray man and another consultant advised further exploration. I explored with the needle and got a small amount of pus posteriorly, so a culture was made of this, which showed numerous bacteria, but from the exploration it was quite evident that it was not a deep pocket of pus, so I decided to let it go. At that time we began to think of carcinoma. The man later died of a definite primary carcinoma of the right lung, beginning in the bronchias of the lung, and also metastases of the other lung—but the right lung showed a massive carcinoma of infiltrating type. This man apparently had run clinically from the beginning a course similar to that of an abscess of the lung. In reality he had a carcinoma of the lung; and probably what happened was that the origin of the carcinoma had taken place in the bronchias and developed multiple small abscess cavities throughout the lung.

Dr. Rosenkranz: I would like to ask how long had these cases lasted—these cases of primary carcinoma of the kidneys—after you were able to discover metastases in the lungs? If we remember, in pulmonary diagnosis, that we must lay at least equal stress upon the history with a physical examination, we won't go astray so often. I am particularly glad to have heard this fine paper and the discussion, for I know of a case that came under my care about four months ago of a man 62 years of age. He had been treated in one of the leading sanitariums of the country for eight months for tuberculosis. He ran a temperature of 99 to 102.4 degrees. He felt bad, and fairly hungry, but took little food, and the result was that he had lost 50 pounds in the previous four months. In going over his chest and sizing up the case, I felt that the pathology of his chest certainly did not account for his condition, with a loss of 50 pounds, and there was something about him that gave a suggestion of malignancy. I had three different internes, and one said it was in the liver, one in the gastro-intestinal tract, and one in the kidney. Finally a surgeon, a friend of the family, found a large solid mass in the right kidney. He passed out of my hands then, and has been down at Loma Linda, where I saw him yesterday, and he has held his weight since. The mass has grown considerably and is now giving him a good deal of pain. There were no urine findings, and there are not now—except when one time he was under my care I found a few red blood cells. Just what his diagnosis is I do not know. You see about a year ago he first entered a sanitarium with tuberculosis, a condition which I felt he never had.

Dr. Hayes: In the past four years I have seen two cases of carcinoma of the lung—one a young man of 32 who had been all over the country. Some *x*-rays which he carried with him showed that he had a very clearly circumscribed area starting here (illustrating). His main symptom was severe pain with no pathology in the other lung. He had an effusion of clear, serous liquid. The other was a man 62 years old. Main symptom severe pain about the lesion of the right, with a clear serous effusion. No pathology in the other lung. Based on the history and on the location of the lesion and the progress of the case, a tentative diagnosis of carcinoma or malignancy was made in this case, which proved to be true at autopsy. These were both primary carcinoma of the lung, evidently beginning in the bronchi.

Dr. Shuman. I expected to draw fire with the statement that primary carcinoma of the lung seldom, if ever, exists. And when I get through you will agree with me that I am not very wrong in assuming such a premise, for I am looking at it not only from the diagnostician's, but from a therapeutic standpoint, with the possibility of saving a human life. You will agree with me that by the time the growth is manifested in the lung we can do nothing.

Usually carcinoma begins in the following places:

In, and about the alimentary canal, for example; the cardiac, and pyloric openings of the stomach, and in and about the gallbladder and its ducts; the rectum, the cervix, breasts, etc., with metastasis elsewhere.

Carcinoma may begin in the kidney as it did in this man. Now, this man's life might have been saved had the primary lesion (kidney) been recognized and removed early enough. Surely he was passing an abnormal amount of urine containing albumin, which was not looked into properly as to its etiology.

His attending physicians should have called in the urological consultant, who would have, quite likely, defined "albuminaria coming from right kidney," which would have called for a pyelograph and a roentgen study of the right kidney. Had his right kidney with the primary growth in it, been removed early enough, it is fair to assume his lung pathology would not have developed, and this man might still have been with us.

In reference to Dr. Hayes' question "how long do these cases last," this man lived six months on our service. Baumgarten spoke of the longest duration they had of that, "series of four," being something like three and a half years.

In closing, carcinoma like a number of other diseases, has its origin. It is only by removing carcinoma of the stomach early, or of the breast, rectum, uterus, etc., that we can expect to stave off end-results like this.

Four Decades Ago and Now

I. L. NASCHER, M.D.
New York City

I am writing this on the fortieth anniversary of my graduation from the medical department of the University of the City of New York, now the University and Bellevue Hospital Medical College.

To some, the recalling of the past means nothing or les sthan nothing; a purposeless, bootless reverie. To some, and I am among this number, the memory of the past and a comparison of what medicine was forty years ago and what it is to-day, are pregnant with meaning and fill them with hope and stimualtion.

The past forty years in medicine have not been an era of steady evolution, a steady and progressive addition to our knowledge of the science, but this period has been a revolutionary era during which many of the fundamental principles, theories and rules upon which our knowledge of the science was then based, have been proven wrong and have been discarded. When I was a student, malaria was what its name indicated and what it had been considered for centuries and ages: bad air, a miasm or bad air arising from sewers, cellars, cess-pools, swamps, and in the house, from kitchen sinks, garbage pails, toilet bowls, slops, decaying animal and vegetable matter, in fact, from anything that gave a bad odor. The treatment was Jesuits Bark, (Cinchona Bark), and its alkaloids for the disease and chloride of lime or crude carbolic acid to dispel the miasm. As almost any disease which produced malaise, fever and a general broken up feeling with aches in the joints and muscles, was called malaria, the treatment given above frequently failed and stronger remedies were employed.

The most popular remedy for malaria was Warburg's tincture, a concoction which originally contained over sixty ingredients but which, forty years ago, contained only fourteen, namely; aloes, rhubarb, angelica, myrrh, fennel, elecampane, saffron, gentian, zedoary, cubeb, white agaric, camphor, quinine and dilute alcohol. It was still the era of the shot-gun prescription when physicians prescribed many remedies in one prescription, hoping that one would hit the mark. The prophylactic measures, those intended to destroy the miasm, were either strong smelling drugs or powerful chemicals. In 1880, Laveran announced that he had discovered a germ that was present in every case of quartan malaria fever but so little was known about germs in those days and so many different conditions were called malaria that Laveran's announcement made no impression upon the medical profession and was taken seriously only by a few laboratory investigators.

Our conception of contagious diseases was just as completely wrong as was our conception of malaria. Forty years ago it was supposed that certain diseases gave out deleterious emanations. The body is surrounded by an invisible aura consisting of the vapor of the insensible perspiration or exhalations from the skin. The deleterious emanations given off in certain diseases could pass through this aura but in the contagious diseases, in which the disease was communicated through direct contact, the emanations remained in the aura and retained their virulence. In other diseases the emanations were weakened when they passed through this aura, or retained their power for destructiveness for a short distance. I do not recall the exact distance from the patient that the contagium or morbific emanation was supposed to be active but while all diseases in which there were such emanations were contagious through immediate contact, in some the contagium remained active for only a few inches from the body, in others, the active distance was a hundred feet while others retained their virulence for days.

Koch's announcement of the discovery of the tuberculosis bacillus was made in 1883 but few physicians accepted the theory of the bacterial origin of disease. According to the belief at that time, phthisis was an inherited disease and the patient was born with it and the physician's efforts were directed to prevent an outbreak of the disease. The patient was dosed with cod liver oil, kept warm and away from draughts, fed up on milk and eggs until the remedial measures themselves became etiological factors of other diseases. The three most prominent physicians in the city, the professors of the practice of medicine in the leading medical schools, differed in their views of Koch's discovery and its meaning in the science of medicine. Alonzo Clark rejected the germ theory as an etiological factor in disease. The elder Austin Flint thought more proof was necessary to make the theory convincing. Alfred L. Loomis accepted the theory as applied to a certain type of phthisis but other forms of the disease were congenital. He believed that the disease, when due to the bacillus, could be transmitted through the breath but the dangerous nature of the sputum was not known at that time. The usual remedies employed then were cod liver oil and the hypophosphites. Cod liver oil was supposed to be a specific in consumption and the hypophosphites, especially the hypophosphite of lime, were supposed to retard caseous and tubercular degeneration and cause a calcareous encapsulation of the diseased area. Incidentally, the patient was kept warm and away from draughts. In many of the poorer homes the only equable warmth was found in bed and as many bed-rooms were inside rooms without light, patients were often kept in these dark rooms until they died. We realize now that our method of treatment of phthisis was wrong and actually hastened the end. A generally accepted theory in those days was that the climate in which the disease developed was unsuitable and therefore, a person who developed consumption in the mountains was sent to the sea-shore while those who developed the disease while living near the sea were sent to the mountains.

Gout and rheumatism were supposed to be identical, both due to the retention of uric acid in the blood, the former being localized in the small joints and the latter in the large joints. We don't know much more about gout to-day than we knew then but we know that it is the rich man's disease only where wine is expensive while in countries where the fermented liquors are cheap the poor are as often afflicted as the rich. Both rheumatism and gout had periods of remission between short, active, acute attacks. There was also a form of rheumatism which affected the muscles and a form of gout, called goutiness, which affected the whole body, and a rheumatoid gout. Salicylates were just beginning to be used and the usual remedies were the iodines, colchicum and various so-called vegetable alternatives such as sarsaparilla, serpentaria, stillingia, burdock, etc. That there was any analogy between acute articular rheumatism and the contagious diseases, that it in any way affected the heart, that the growing pains of children were rheumatic in origin, these facts were not known.

Gonorrhea, forty years ago, was considered a local affection and treated as a joke. The standard mode of

treatment was an injection of a 5 per cent. solution of sulphate of zinc and acetate of lead twice a day and internally, Lafayette mixture or some similar mixture of cubebs and copaiba. The stronger the injection the more rapidly did the discharge disappear but the greater the danger of stricture.

Lacking our present knowledge of the causes of most diseases, we ascribed to all diseases a predisposing cause and an exciting cause. The predisposing cause was usually a diathesis or peculiarity of the body making it particularly liable to a certain disease or class of diseases. If it was possible to find a history of the same disease in a parent or ancestor or blood relative, even a distant cousin, the diathesis was considered hereditary and inevitable. If an old grand-father had a chronic bronchitis, it explained the pulmonary diathesis in the grand child that had pneumonia; and if the mother had an eczema during her youth it explained the scrofulous diathesis which was the predisposing cause for the scald head in the child. We knew then that favus was a vegetable parasite and that it was contagious but it required a predisposing as well as an exciting cause to produce it. The exciting cause of a disease was often so mild that it could not be traced, or there may have been a number of exciting causes. It was generally possible to find an exciting cause in cold, draughts, sudden change of temperature, improper food, noxious vapors (miasms), strains, mental trouble, etc. If no cause could be found the disease was called idiopathic or due to some internal cause.

The progress in surgery during the last forty years has been as revolutionary as the progress in medicine. Shortly before I graduated Dr. Alfred C. Post performed a staphylorrhaphy upon a girl of 12, using neither anæsthetics nor antiseptic precautions. He performed the operation with bare hands and picked the instruments from a basin of warm water where they were kept because he preferred to handle instruments when they were warm. Prof. Post, who was then about 70, rejected Listerism entirely. At the opposite extreme was another noted surgeon who went so far as to advocate the use of an antiseptic rectal injection after each defecation to keep the lower bowel sterile. Probably few physicians to-day know that Lawson Tait revolutionized surgery in the few weeks that he operated in this country in 1884. Before this time celiotomy was rarely performed and then only as a last resort. Suppuration was then considered an essential process of repair and surgeons prayed that it might be laudable pus and not sanious or ichorous pus as these always made the prognosis grave and generally fatal. Tait performed several ovariotomies, following Lister's antiseptic precautions, and all recovered without suppuration. Other surgeons performed celiotomies for other conditions and employed antiseptic precautions and were equally successful in having non-suppurative repair take place. The old theory that put formation was essential to healing was discarded and antisepsis was firmly established.

One result of the frequent opening of the abdomen was the discovery that most cases formerly diagnosed as perityphlitis were realy cases of appendicitis and that the appendix could be removed without greater danger than there was in ovariotomy. Forty years ago the opening of the abdomen was undertaken as a last resort and was usually fatal. A few days ago an operation was performed for angina pectoris and operations necessitating opening the thoracic and cerebral cavities are no longer recorded as extraordinary events.

In obstetrics little progress has been made in the past four decades. We knew nothing of prenatal care, of rubber gloves and but little about antiseptics but we used antiseptic douches of carbolic acid or bichloride of mercury and used such solutions for our hands and instruments. Some physicians did not believe in douches until they lost cases of child-bed fever. Puerpural fever was much more prevalent then than now and few physicians who had a large obstetrical practice escaped without one or more deaths. If a doctor had one death from this cause he generally had more and the only thing he could do was to give up confinement work for a few weeks or months. Then and frequently since then there have been wide differences of opinion about the use of douches and binders, the length of time the woman should remain in bed, convalescent care and the care of the infant, but the mode of procedure during delivery has not changed. Much of the obstetrical work was done by midwives and they knew nothing about antisepsis and many physicians did no obstetrical work but were called in if the milk fever that was due on the third day after delivery, persisted longer than a day or two. There were epidemics of puerpural fever in hospitals and in certain localities but the disease was infrequent despite the absence of all antiseptic precautions by midwives. The care of the infants was a far more serious problem as nearly fifty per cent. died during the firse five years, most of these dying during the first or second summer. The dreaded summer complaint of those days is rarely heard of now while marasmus and other wasting diseases of infancy are infrequent. The great increase in the average duration of life is due primarily to the improvement in infant feeding. Sterilization of milk was unknown then and few children that were dependant upon artificial feeding survived the summer when milk turned sour and dealers used bicarbonate of soda to hide the sour taste.

In therapeutics the changes have been as radical as in our conception of the etiology of disease. The early eighties witnessed a profound revulsion against the shotgun prescription and the rise of the therapeutic nihilist who prescribed nothing or, at most, a placebo. One of my preceptors (medical students had preceptors in those days), called to see a patient who had taken Paris Green, prescribed theriac Andromachi, a general antidote for poisons and insisted that it should be made fresh. The patient had been buried several days before the druggist succeeded in assembling the seventy ingredients required to make it. Drugs were divided into two great classes; symptom medicines used to relieve symptoms and disease medicines that were used to cure diseases. Most drugs were symptom medicines, one or two doses being sufficient to relieve the objectionable symptom. Disease medicines would act slowly and a prolonged course of treatment was required to get results. In the treatment of constitutional diseases the etiology of which was unknown, alteratives were used and from four to a dozen or more were combined in one prescription. When anodynes were prescribed several were combined and one of the most popular proprietary anodynes of the day contained, chloroform, ether, morphine, cannabis indica, hydrocyanic acid and capsium.

Antiseptics and disinfectants were just beginning to be used but there were classes of remedies in general use of which the present generation knows virtually nothing. How many know that forty years ago physicians deliberately created ulcers and fistulous tracts by making an opening in the skin and running through it a skein of thread called a seton and kept up the irritation until suppuration occurred, then put in a pea or a bit of orris root, called a pea issue, to keep up the suppuration. This was supposed to draw the pus from a part of the

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Relation of Schools to Health

(*Continued from page* 116)

millions the taxpayers have put in those "old buildings" to some of which Mr. Nudd has rather slightingly referred, you will find those vast millions were and are carefully and honestly spent. Ninety millions, about, annually of the amounts devoted to education, are voted to the *general school fund* which is appropriated annually, for and from which all salaries to the teaching staff are paid, exclusively. This fund is used for no other purpose. On the teaching staffs are thus included all superintendents, principals, teachers, assistant teachers and professional teaching employees of the various educational departments. *Many more millions* are also appropriated exclusively to meet the demands of the pension system for school teachers. The *special school fund* annually has many millions appropriated to it to pay the expenses of repairs, supplies, books and other executive necessities, together with the salaries of non-teaching officials including office staffs, janitors, etc. For new buildings, many millions are annually voted at present, as needed.

I took the opportunity today to look at my collection of 700 photographs of public schools in this city. The best schools in Philadelphia, which city has been mentioned by the speaker, are scarcely better than the oldest in New York, and our finest schools are palatial in character and might well be compared to the finest buildings in Washington. I consider the gentleman's comments on the condition of our public school buildings quite unwarranted. As far as the school plant is concerned, I do not know of any city so liberal in provisions for its schools as the City of New York, nor have the taxpayers of New York any conception that the schools are not very liberally financed in every way. One hundred and twenty millions per year for salaries, and night schools, and a special school fund last year of over nine millions devoted to coal, engineers and repairs and janitor care of school buildings. Many millions in addition for pensions. School teachers are not only paid high salaries—the highest paid to public school teachers in this country and practically in any country in the world—but a pension and annuity of 50 per cent of their salary at the average retirement age of 56, for only five hours work per day, five days per week and nine months per year.

If I were not a citizen of New York but a visitor from Mars I should have thought, listening to the speakers this evening, "how mean, how stingy this great city of New York is, to be parsimonious with its schools." It is not niggardly; it is extravagantly liberal. It should receive the highest type of education for the children in return for the vast millions spent.

Some years ago Mayor Mitchell appointed a special commission to find out how much congestion there was in the schools. There were in some of the elementary classes as many as 50 odd children, the kindergarten in some cases had as many as 50 *on register*. Up to the fourth, fifth, sixth and seventh grades the average register was about 40. The kindergarten *register* was higher because for obvious reasons many of those children do not go to school every day, the general average of absenteeism in these classes being about 20 per cent. When you take the total elementary school classes the average real attendance was about 35 per class, almost 11 per cent being total absenteeism. This percentage of absenteeism was the average for 10 years. Although this is a great city we cannot provide a special teacher for each child. The nobility of England send their boys to the great grammar schools, such as Eton, Rugby, Harrow, which have thousands of boys with some classes of 70 pupils divided in forms for monitorial discipline. Older classes are even larger in number in the lecture rooms. When I hear people say this is excessively large, I reply that they do not know what they are talking about. The system has been proven correct. Such classes as ours are not large; they are adequate. A boy will not amount to anything or have a decent education unless he has large competition with his fellows. With regard to the statement that we as taxpayers are "looking out for the money" and are saving the "mighty dollar," "we are afraid to spend the money," I do not know why we should be, for at the present since recent years we should be able to pass additional taxes over to the tenants, and the tenants would thus be indirect taxpayers. But landlords are not the kind of people who desire to *squander* funds uselessly. They do not hesitate, but desire to spend money liberally on their buildings and on the city public buildings; and also in providing parks, schools, water plant, etc., etc. You must excuse my warmth on this occasion, but the charge is unwarranted. I could spend much time replying and proving the contrary to the gentleman who last spoke along these lines, were it necessary. But do not let anyone tell you that the city of New York during any administration with which I have been acquainted has failed to do its best in supplying school buildings and liberal school facilities.

With regard to the medical aspect, in the prevention and dissemination of contagion in and through the schools, I wish some one would tell me how to universally prevent children from getting measles from other children who have measles in the *preliminary stage*, which is the most communicable stage, and who do not appear sick enough to be kept at home. If you think the appointment of doctors for daily inspection of the children will prevent this, you are mistaken. Superficial medical inspection will not answer. Isolating and excluding them when they are feverish and sneezing, etc., will not prevent measles being communicated through them to healthy children. Measles can not always be diagnosticated in the earliest stage of communicability.

The disease is "catching" even before Koplik spots are fully apparent. I know of no *positive* very early method. We know of no method of preventing the endemicity of measles except by finding it very early in the disease, and having a physician present to detect the early symptoms would mean the most *careful* examination of the mouth of every child in every room every day. The present method is not of very much value from the standpoint of the prevention of contagion, for it generally happens that the child who develops conjunctivitis and *fever* is kept at home anyway—and at that stage the disease is far advanced. Again, we know of no method of diagnosing diphtheria early, *where there are no clinical signs* except by taking a throat culture. Would you advocate taking a throat culture from 3,000 children in every school building every morning to be sure they have not diphtheria? There are almost a million children in the elementary and secondary schools of the city. Small-pox vaccination occurs before the child enters school at all. Competent medical men recommend that the child be vaccinated before it is one year of age. This being the case, how can one reconcile it to the statement that the inspection in the schools has prevented epidemics of small-pox? I remember the last epidemic of 1901 to 1902 and at that time most of those sufferers were foreigners who had not been vaccinated abroad. We doctors might reasonably believe the other statements were, medically speaking, even more or less carelessly made, and are only excusable when made by the laity. When one says that every child should be carefully examined every day by a doctor, I sympathize with the man who said, "There is no time to do so many things in school and educate the children too," and where is the army of doctors to come from? The statement also is not warranted that if the state has compulsory education laws it should also be compelled to see that the children are perfectly healthy. This is a "non sequitor." It does not follow that because I am willing to give one thing that Society needs at the public expense that I am to be compelled to give everything even if it were possible. Mankind is not yet socially living on a communistic basis. We are governed by a Constitutional Democracy in our country. Finally I wish to leave this thought in your minds. If you give one child in the public school one cent's worth more than you give to every other child, you are making a pauper instead of educating an independent man. Nothing should be given except what he earns by merit and what all are entitled to receive.

Dr. M. H. Frantz: I have been interested in this subject for ten years, and if experience counts for anything I must say I agree with the reader of the paper of the evening that it looks as if the physical welfare of the children in the public schools is a matter of considerable indifference, from the standpoint, at least, of the psychiatrist. At the mental clinic of the Post Graduate Hospital we have seen many of these school children, but it depends on the individual preference of the principals of the school as to where children in obvious need of examination should be sent. As an example, there is a principal of a school in Brooklyn who sends to this clinic precocious children and those she thinks are mentally defective. On examination, we often find the children have a physical basis for their mental deficiency; the teeth are careous, the eyesight is defective, there is a condition of obvious malnutrition, etc., etc. This physical basis should have been obvious even to a layman, but it has apparently escaped attention. The children are not examined by a school physician and sent to selected clinics qualified to treat the particular defect; if one teacher has a friend who is a doctor in a certain hospital she recommends the child be sent there; another principal may send a child with the same defect to still another place for the same reason. There is an inspector of public schools who is supposed to function in this regard; no one, however, knows when or where. There is another, a psychiatrist, stationed in this city, but no one seems to know when and where he is supposed to function.

Professor Raynor sees these children after they have passed out of the elementary schools into the high schools and even there he gets percentages of physically diseased children. That was borne out by the draft statistics. What is done in the elementary schools for the health of the children? There is supposed to be a nurse and they are supposed to have a medical

inspector. What their functions and time of duty are no one seems to know. Such carelessness exists that it would seem an ordinary layman performing the function of even a cursory daily inspection of the children would more readily detect the gross physical defects that are preventing the educational progress of so many of the children.

As to the emotional states, this condition has not been given very much consideration by the school authorities. With recent developments in abnormal psychology we have begun to take cognizance of the importance of this mental state. But as yet there is no adaquate provision made for them. I recently saw a young school boy who had a mania for riding in the subways and unless forcibly restrained he spent all his time riding back and forth in subway cars. This was not a crime, nor was he harming anyone by indulging in this craving, but eventually he was sent to the Catholic Protectory because he was not a normal, although a perfectly good boy. The Anderson case in Jersey is another illustration; I saw that boy a number of times. He suffered from emotional disturbances. If he had been taken in hand early in life and help exerted to adjust him he would now have been a useful member of Society instead of being in State Prison for life. These children have a distorted view of the realities of life, and if they are not readjusted they will go astray. The school is the place in which to detect these mental abnormalities, for the child is there under daily observation with his fellows and under the authority of teachers, and he is more likely to reveal his true condition than under any other circumstances.

James Elmer Christie: At Nyack last year we had a registration of 1,492 pupils and an average daily attendance of about 1,300. We comply with all the requirements of the State laws, have a teacher physical instructor for the girls, another for the boys, and a school physician. These officers have been carefully selected, are very intelligent people, and we pay high salaries. I mention salaries in passing, because of the criticism I have heard here relative to the same. We believe in high salaries, for we have found that we cannot otherwise command the best service and secure results. Our staff of teachers at the beginning of each school year, and at necessary intervals thereafter, is given rudimentary instruction by the school physician in school hygiene. A great deal of care is exercised by our school physician.

Our school physician does not "merely appear at the beginning of the term and inspect the pupils as they march past him," but he is at the school, each morning of the school year, and stays as long as his services are required. The teachers report cases of suspected disease to him, and send these children to his office each morning. He makes his examination, gives emergency treatment to the pupil if necessary, or sends the child home with instructions to consult the family physician. Nor is the mental health of the child neglected. The "emotional" nature we consider through the intelligence tests, and our grade classes are again in turn regraded in A, B and C divisions according to mentality and progress. Cases of incorrigible children, when necessary, are referred through our attendance officer to the Children's Court, where a sympathetic woman probationary officer looks after them. If a child needs attention to the eyes or teeth our physician follows this up to see that the matter is eventually attended to. Where pupils are dull and backward, we realize that they need special attention, and when they have this, they show great improvement. For the under-nourished pupil, or for those whose parents so desire and advise us, we furnish pure milk each day at cost or in necessary cases free of charge. Such distribution is made at 10:30 A. M. each day.

I have heard some criticism made here of gifts of shoes, etc., to children. Our teachers generously maintain a small fund by means of which they tactfully and unostentatiously have furnished from time to time eye glasses, shoes, and other necessary things to those pupils who needed but who could not afford them. I know of no harm or loss of self-respect resulting from the practice thus administered.

That is briefly the story of our "little red school house."

John Kirkland Clark, Esq.: This is a subject in which any father is necessarily much interested. I am inclined to put it up to the doctors, for it seems to me the schools constitute a great work ground in the line of preventive medicine, and I regret to hear one of them tell us that there is as yet no means of preventing the spread of infectious diseases, such as measles, by discovering them in time. I hope the doctors will soon make a little more progress in the research line of preventive measures which will have the result of killing off some other diseases as small pox has been eliminated as a menace. None could help being impressed with the earnestness of the principal speaker of the evening in calling attention to the desirability of having more adequate work done along these lines in the public schools, and the value of preventing the spread of disease and disability, as well as forming habits of health and disease prevention in the early and formative years of life. I think that effort to spread that sort of gospel through the schools should be crowned with success.

Dr. G. Alfred Lawrence: The health of the school children should be in the hands of officials of the Health Department who are specially trained medical men. For many years the Health Department has had medical inspectors who have been trained in contagious and other diseases and these inspectors go to the public schools every morning. It is impossible, however, that all children with a suspicion of disease should be reported, as they are not always brought to the attention of the medical inspectors. There are also many trained nurses connected with this work and they go into the homes as well, and there is some inspection of the children going on all the time. Though the health of the school children should be in the hands of the Health Department, there should be more co-operation between it and the Department of Education. The Department of Education is already getting a very generous share of the budget and the Health Department should get more to be used in taking care of the health of the 1,600,000 children in co-operation with the Department of Education, whose function is primarily educational.

Mr. Raynor (closing): I must deny the imputation that I invaded the medical field, and I also deny the charge of inaccuracy in my statements. I do not admit the choice of measles was unfortunate, nor did I say that any teacher should attempt to diagnose measles, for I have known some doctors who were not always successful in that direction. The teacher, however, does know when something is wrong with the child, and that is the point I wanted to make. My information regarding the condition of the public school buildings does not come from photographs; I have lived for thirty years in these schools. As to the teachers' salaries, they do not all get fifty per cent of their salaries as a pension; if I should retire after 35 years of teaching I should not get anywhere near fifty per cent of my salary.

As to their being overpaid for five hours' work five days a week, I cannot let that statement go unchallenged. If you will go to Albany Avenue and Dean Street any morning at a quarter to eight you will find a score of teachers entering the doors of the Commercial High School, and they are there from half an hour to three or four hours after school, and then often take work home with them. Although I am not supposed to be at school until nine o'clock, I have not failed for twenty years to be there at about five minutes after eight in order to be accessible to the boys for consultation before school opens. The teachers put in from six to ten hours of work daily. As to their being overpaid, their work is not paid for in any degree as highly as work is paid for in other professions. We have recently had four men retired from our school at the end of thirty-five years of teaching. One of them is now employed in life insurance and received during his first year payment at the rate of $10,000, whereas he received $3,700 in the public school. Another is manager of a big hotel and is earning, after spending the best years of his life in the schools, more than he ever earned as a teacher. I was in business before becoming a teacher and during those few years made enough money so I could afford to go into the public schools and still support my family in comfort and have some provision for the future. Since then, I have taught in the public schools and have never earned in any four years what I earned in some of those single years in business. But I would not go back to business or do anything else than live my life with those boys. The satisfaction in my work cannot be measured in money.

As to the amount of money expended on our schools, neither Mr. Nudd nor I advocated the spending of more money, but rather the spending of it more wisely. One mayor spent $11,000,000 removing partitions in the schools, and another mayor spent $11,000,000 putting them back. We have not reached the highest point of business efficiency in the spending of our school money. When the statement is made that New York furnishes better and greater school facilities than anywhere else in the world, I can best reply by calling attention to a little town on Long Island where they are doing every one of the things I advocated here to-night and which are not being done in the schools of the City of New York.

As to Dr. Lawrence's statement that Public Health inspectors who are trained medical men go to the schools every morning, it may astonish that gentleman to hear that there has not been a public health inspector or nurse within the walls of the Commercial High School for ten years. I cannot reply to his question of where they are; I merely state facts and explain conditions to you, and ask you to help make them better. By using their best common sense our physical instructors watch for signs of anything wrong with pupils' health, and when a suspicious case is discovered the boy is sent home with a note to his parents advising that a doctor be consulted at once. By careful attention to the matter and with such means as are at our disposal, we have been able to cut down absence due to sickness more than 50 per cent. We consider that well worth while.

Program of American Medical Association

(*Concluded from page* 109)

Friday, May 29—2 p. m.

Election of Officers

Prevention of Rickets (Lantern Demonstration).
MARTHA M. ELIOT, New Haven, Conn.

Methods of Teaching Posture (Lantern Demonstration).
ARMIN KLEIN, Boston.

Blood Phosphorus in the New-Born: Seasonal Variation, and Its Relation to Rickets.
EDWIN A. RIESENFELD, New York.

Are Perthes' Disease, Köhler's Disease, Schlatter's Disease and Scheuermann's Disease and Similar Conditions Different Manifestations of One and the Same Process? (Lantern Demonstration).
HENRY J. GERSTENBERGER, Cleveland.

A Method for Eliminating the Etiologic Organism in Treating Endocarditis. MEYER SOLIS COHEN, Philadelphia.

Static Peritonitis in Athreptic Children.
JOHN A. FOOTE, Washington, D. C.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN NEW HALL IN HADDON HALL.

OFFICERS OF SECTION

Chairman—OSCAR DOWLING, Shreveport, La.
Vice Chairman—HERMAN N. BUNDESEN, Chicago.
Secretary—W. F. DRAPER, Washington, D. C.
Executive Committee—JOHN A. FERRELL, New York; W. S. LEATHERS, University, Miss.; OSCAR DOWLING, New Orleans.

Wednesday, May 27—9 a. m.

Meat Inspection as a Public Health Measure.
W. H. LIPMAN, Chicago.

The Correlation of Federal Health Agencies.
LINSLY R. WILLIAMS, New York.

Chairman's Address. OSCAR DOWLING, Shreveport, La.

The Uses of the Scarlet Fever Streptococcus Toxin and Antitoxin in the Diagnosis, Prevention and Cure of Scarlet Fever. W. H. PARK, New York.

Some Problems in State Public Health Administration.
MATTHIAS NICOLL, JR., Albany, N. Y.

A Typhoid Carrier Survey of the Dairy Industry in Alabama.
S. W. WELCH, Montgomery, Ala.

Thursday, May 28—9 a. m.

Plague: Past, Present and Future.
B. J. LLOYD, Washington, D. C.

Universalizing Breast Feeding in a Community.
FRANK HOWARD RICHARDSON, Brooklyn.

Problems of Current Interest in the Control of Communicable Diseases. LOUIS I. HARRIS, New York.

Epidemiologic Features of Typhoid Fever in Richmond, Va., 1907-1923 (Lantern Demonstration).
ALLEN W. FREEMAN, Baltimore.

Epidemiologic Methods (Lantern Demonstration).
DON M. GRISWOLD, Iowa City.

Health in Relation to Citizenship.
JOHN A. FERRELL, New York.

Friday, May 29—9 a. m.

Election of Officers

The Dog as a Carrier of Disease (Lantern Demonstration).
MINAS JOANNIDES, Minneapolis.

The Control of Foods Eaten Raw.
HERMAN N. BUNDESEN, Chicago.

Factory Ventilation and Industrial Wastes.
C. E. A. WINSLOW, New Haven, Conn.

Industrial Health Under Nonmedical Supervision.
E. R. HAYHURST, Columbus, Ohio.

Radium Necrosis? F. L. HOFFMAN, Newark, N. J.

The Trend of Cancer Mortality.
J. W. SCHERESCHEWSKY, Boston.

SECTION ON UROLOGY

MEETS IN NEW HALL IN MORTON HOTEL

OFFICERS OF SECTION

Chairman—JOHN T. GERAGHTY,* Baltimore.
Vice Chairman—ROBERT V. DAY, Los Angeles.
Secretary—GEORGE GILBERT SMITH, Boston.
Executive Committee—HENRY G. BUGBEE, New York; HERMAN L. KRETSCHMER, Chicago; JOHN T. GERAGHTY,* Baltimore.

Wednesday, May 27—9 a. m.

The Urologist and Clinical Diagnosis: The Findings in Four Hundred Cases Referred by Internists for Urinary Tract Study. P. A. ROHRER, Seattle.

Teaching of Urology to Interns.
WILLIAM C. QUINBY, Boston.

Autonephrectomy. LIONEL P. PLAYER, San Francisco.

Technic for Orchidectomy When Both Epididymis and Testis Are Involved. CHARLES S. VIVIAN, Phoenix, Ariz.

Thrombi and Emboli of the Renal Artery: Report of an Unusual Case (Lantern Demonstration).
CHARLES O. DELANEY, Winston-Salem, N. C.

Renal Function: Results of Experimental Work (Lantern Demonstration).
WILBUR H. HAINES and L. F. MILLIKEN, Philadelphia.

Hexylresorcinol in the Treatment of Urinary Tract Infections: Certain Clinical Aspects. VEADER LEONARD, Baltimore.

Thursday, May 28—9 a. m.

Chairman's Address: Urologic Problems of the General Practitioner, Internist and Surgeon.
ROBERT V. DAY, Los Angeles.

SYMPOSIUM ON PROSTATECTOMY

Perineal Prostatectomy (Lantern Demonstration).
PARKER SYMS, New York.

A Device for Controlling Hemorrhage After Prostatectomy (Lantern Demonstration).
EDGAR G. BALLENGER and OMAR F. ELDER, Atlanta, Ga.

The Value of Transfusion in Surgery of the Prostate (Lantern Demonstration). AUSTIN I. DODSON, Richmond, Va.

Some Causes of Poor Functional Results Following Prostatectomy (Lantern Demonstration).
ROBERT H. HERBST, Chicago.

An Operation for the Relief of Post-Prostatectomy Incontinence of Urine. E. L. KEYES, JR., New York.

Perirenal Sclerosis, Including a Report of Two Cases Occurring as a Sequel to Perinephritic Abscess.
VINCENT J. O'CONOR, Chicago.

Bladder Reflux (Lantern Demonstration).
DANIEL N. EISENDRATH, HARRY KATZ and J. M. GLASSER, Chicago.

Friday, May 29—9 a. m.

Election of Officers

An Unusual Case of Cancer of the Bladder (Lantern Demonstration). J. DELLINGER BARNEY, Boston.

Vesical Diverticula. ARTHUR B. CECIL, Los Angeles.

Etiology of Incrusted Cystitis (Lantern Demonstration).
B. H. HAGER, Madison, Wis.

Fifty Years of Progress in the Treatment of Gonorrhea.
VICTOR G. VECKI, San Francisco.

Prostatitis of Nonvenereal Origin.
THEODORE BAKER, Pittsburgh.

Lowered Fertility in the Male. DONALD MACOMBER, Boston.

Urinary Calculi: Their Chemical Composition and Structure in Relation to Radiography (Lantern Demonstration).
DANIEL E. SHEA, Hartford, Conn.

Impacted Calculi of the Ureter, Their Treatment and Result (Lantern Demonstration).
ALEXANDER HAMILTON PEACOCK, Seattle.

* Deceased.

American Board of Otolaryngology

The next examination conducted by the American Board of Otolaryngology will be held at the Ambassador Hotel, Atlantic City, on Tuesday, May 26th, at 9 A. M.

Application blanks may be obtained from Dr. H. W. Loeb, Secretary, 1402 South Grand Boulevard, St. Louis, Missouri.

Conjunctivitis Infectiosa Necroticans

H. H. Stark, El Paso, Texas, reports four cases corresponding clinically to the condition first described by Pascheff. The first case was thought to be squirrel plague infection, even though no history of animal inoculation could be obtained and notwithstanding the negative laboratory reports. The second and third cases brought some doubt to mind. The fourth case gave opportunity for further study. Laboratory investigations were negative. One of the ulcers was dissected for sectioning, but nothing was found. However, these cases corresponded in appearance and course to those reported by Pascheff.—(*J. A. M. A.*, Dec. 13, 1924.)

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NEW YORK, MAY, 1925

A Serious Situation

It is pointed out on all sides that the United States is being rapidly drained of its physicians. About 6,000 are dropping out yearly through death and incapacity, while but 3,200 students are being graduated annually.

Many rural districts are quite depleted of doctors, even while increasing in population. Those still in the country will not be replaced to any great extent.

The doctors tend to crowd into the cities and to specialize. There are not enough medical schools, the courses are too long, expensive and otherwise faulty. In another ten years the situation will be very grave.

Schools like the University of Virginia are now training city-bred men who have no intention of practising in the country. Formerly such schools educated boys from the rural districts who were not rich or highly educated (Flexner style) but who possessed character and had no other goal than medical service in their own communities; moreover, they were of good American stock. These boys were far better educated than was George Washington, but the country can find no use for them today in the field of medicine.

No John Hunters, with their meager schooling but rich powers of attainment and fine characters, need apply.

Instead of such men, let their places be taken by a horde of chiropractors and other freak healers. That is the modern way, brought about by doctrinaires who ought to be made to pay for their treason to the profession and to society, but who are still in the high places and honored by a stupid rank and file. No worse mess has ever been staged than that of our self-appointed Brahmins, financed by the most successful moral idiots of the market place.

Dr. William Allen Pusey has at last struck a bold note in reference to this scandal in the *Journal of the American Medical Association*. This is a most encouraging circumstance, for giving him free utterance on such a subject in that journal argues that the medical powers that be are willing that something should be done to correct a very great evil.

This renunciation on the part of the *Journal* must have wrenched somebody's heart strings, for our educational tyrants have hitherto had the unqualified support of the Chicago folk. No such forthright writing as that of Pusey would have had any chance for publication until this year of grace, when it has evidently been decided that something must be done.

It appears to us that the solution lies in part in a new set of standards for admission to medical schools. We must have a selective draft. What are a boy's eligibilities? What kind of a boy is he? What traits of character does he show? Where was he bred? From what kind of stock did he emanate? Has he the capacity to attain?

If through such a draft you get the right kind of boy, academic shortcomings may be considerably discounted.

Then the medical course should be shortened and good practitioners instead of technicians turned out.

Those desiring to pursue the kind of course now covered in our universities should be afforded every facility and given the doctor's degree. The bachelor's degree would suffice for general practitioners.

Such Bachelors of Medicine would be able to support wives before the age of thirty in their own rural communities.

There would be no danger of our university medical schools commercializing such a project, after the manner of some of the old proprietary colleges, and they would have supervision over all teaching agencies, extramural as well as intramural, within certain territorial jurisdictions

It is our job to provide for nation-wide community medical service, at the hands of men bred in those communities so far as possible.

We can do it. We shall have to do it.

Prohibition Increasing Poverty

According to the annual report of the Charity Organization Society, recently issued, drunkenness countinunes to be one of the chief causes of poverty.

During 1924 the cause of poverty in 12 per cent of the families aided was drunkenness, a considerable increase over the percentage noted in former years. In earlier years the percentage used to run from 7 to 10.

No doubt our prohibitionists friends will insist that the increase has occurred despite the law, and not because of it. Like most of their other contentions this is a very naive reading of the signs that one sees all about him.

It is a common thing to hear prohibitionists affirm that drunkenness has greatly decreased of late, because of the salutary effects of their precious legislation. Much dialectic cunning will now be required of them if they are to explain away the statistics of the Charity Organization Society. They will probably concede the increase but fall back upon the argument which we have suggested, namely, that the increase has occurred in spite of the law and not because of it. This, while perhaps the best possible expedient in the way of an argument, during a hard-pressed moment, has an obvious element of weakness in it, since a steady continuance

of the increase, year after year, will in time make the attitude of the prohibitionists more than ridiculous—even anti-social.

Additional confirmation as to the alarming prevalence of drunkenness is furnished by the State Commissioner of Motor Vehicles in New York, who reports that "Of more than 750 licenses suspended or revoked during a recent period of three months, 355, or practically half, were due to intoxication."

Is Preventive Medicine a Sham?

If it be true that there is an increase in alcoholic insanity and mortality, our professed interest in preventive medicine should stir us to throw the whole support of the organized profession toward those forces which are engaged in the campaign to effect the repeal of the Volstead Act.

How sincere is our concern for the national health and vigor?

Mr. Hughes, the distinguished ex-Secretary of State, declared in a speech the other day that health came first in the consideration of those elements going into the foundations of good citizenship.

Very well. Now we have a vast amount of unnecessary ill health and premature mortality directly because of the Volstead Act, if the statistics presented by enemies of the Act are to be believed.

If these are facts, the Act should be repealed because of the resulting benefit to the health of the people.

We are assuming the complete sincerity of the profession with respect to our preventive-medicine program.

Overtaxed Folk

We quite agree with Dr. George B. Cutten, President of Colgate University, that "we are overloading the human machine," and that "as a result present-day life is too much for many persons."

Take our system of long-distance travelling back and forth every day between our homes and our business offices, in foul and crowded subway cars. This alone, from the standpoint of hygienist or physiologist, is quite enough to pollute and fatigue the body, without reckoning on stresses and strains while on the indoor job.

These white-collared folk doubtless fancy that they are better off than, say, the artisan or farmer class. From a medical standpoint they are badly off, relatively speaking.

The trouble is that the big cities are full of people who were intended in the phylogenetic nature of things to work in a simple way upon a small area of the earth's surface without any undue strain upon the brain or nervous system.

Our industrial and profit-seeking civilization takes these peasants, schools them under painful pressure (for them), and then subjects them to a vocational grind that takes them nowhere, without even a pension at the end of the senseless gamut.

What is true of this class of workers is relatively true of the orders immediately above them.

The ailments, mental and physical, of these people betray their unfitness to meet the conditions.

When the human units upon which the continued functioning of our social machine depends are closely scrutinized by the physician they are seen to be of incredibly flimsy character. Thus rapid replacement is essential. No wonder our Bourbons are scared sick by the birth-control movement.

Miscellany

Conducted by ARTHUR C. JACOBSON, M.D.

The Family Doctor

Tribute was paid to the old family doctor as a cultural force by two speakers before the Council on Education of the American Medical Association this week. The Surgeon General of the Navy declared that MATTHEW ARNOLD's definition of culture as a capacity for criticizing life was met by no one better than the old family practitioner, with "his kindliness and insight." The Dean of the University of Wisconsin Medical School deplored the passing of the family physician, who was also the neighbor and friend, and who brought to his ministrations a knowledge of life as well as of medicine. Just how fast is the old-style General Practitioner passing? When Surgeon General CUMMING of the United States Public Health Service, on this same occasion, rejoiced in the progress made toward supplying rural America "with adequate local health service," he would seem to be reconciled to the decline of the old-fashioned doctor. For "health service" nowadays means more and more institutional service as against personal service. The rural districts are far behind the cities in a parallel development of specialized medical skill with concentrated medical facilities.

In the nature of things the country districts must always be at a disadvantage as compared with the towns in the matter of hospitals, clinics, and other curative and preventive agencies of public health. But for the time being that consideration would seem to be secondary to the absolute dearth of country doctors. The family physician, with all his faults by modern standards, would be a gain to the rural sections if there were more of him. At present the shortage is serious. To some extent, it is true, the problem is one of regional progress and backwardness as well as of town versus country. The State of New York in 1920 had one physician and surgeon for every 615 inhabitants, Illinois had one for every 605, California one for every 500, whereas Alabama had one for every 1,040 inhabitants. But the other difference is manifest. New York City had one physician for every 565 people, while up-State the ratio was one to 690. In Chicago the ratio was one to 520, against one to 700 for down-State. As against one to 1,040 for all of Alabama, the City of Birmingham had a ratio of one to 465. Despite its climate, California as a whole required one doctor for every 500 people, and favored Los Angeles insisted upon a doctor for every 333 people.

If the deficiency of rural doctors can be made up, the non-urban regions will find appreciable compensation for their lack of the city's modern facilities. As one of the speakers pointed out, the cultural side of the general practitioner has its professional importance. To know life and to know your patient does give you an advantage as against the highly skilled but impersonal specialist. If, instead of the much-ridiculed "beside manner," we say "the new psychology," the thing appears in a much better light. When one is dealing with so physically and mentally complex an animal as man, it is a gain for the doctor to know something of everything in the patient. Two apparently identical cases of heart trouble are not identical, because there are also lungs, kidneys, stomachs and nerves to take into consideration. At any rate, until rural Alabama enjoys the medical facilities of Morningside Heights, there is room for the old family doctor. At present there is too much room; for the lure of science, easier work and better pay is drawing the young medics to the cities.—*New York Times*, March 14, 1925.

Treatment of the Bladder

(Concluded from page 118)

toscope in bladder surgery which has largely given to various forms of cavity diagnostic lamps is to insert the illuminated cystoscope into the bladder after its walls have been freely retracted. Anyone, however, not possessing the said diagnostic lamps may with benefit get very good illumination of the depth of the bladder in this way.

In an article as compressed in length as this contribution is, the only expectation is to cover the important points. A long paper could be produced on almost anyone of the subjects covered. It is hoped that points of interest and practical value have been chosen and fully explained.

45 West 9th St.

Four Decades Ago and Now

(Concluded from page 123)

body where it could not be reached. Blood letting, wet cupping and leeching were generally employed, the leeches being usually applied through a leech glass to the neck, wet cupping was applied to the back and dry cups to the chest and abdomen while blood letting was done by opening a vein in the arm or leg, rarely the jugular. If rapid action was required, as in apoplexy, an artery was opened. Blisters and other counter-irritants were in use and the actual cautery, heated in the stove or over a special lamp, was part of every physician's armamentarium. We knew nothing about serums and vaccines except the cow pox vaccine virus, nothing about germicides opsonins, hormones, antibodies or antitoxins, we know virtually nothing of the action of the endocrines, indeed, our whole knowledge of the science could be acquired in the regulation two years course in the medical school.

But the physician of forty years ago knew many things that the doctor of to-day will never learn since he has laboratory and instrumental measures and means at his command that the doctor of the early eighties never dreamt of. With the *x*-ray to outline the stomach he does not need the delicate touch that is able to feel the slight groove between the stomach and the bowel, with the sphygmomanometer at hand he does not require the sensitiveness that will determine the degree of hardness of the artery, accustomed to the stethoscope he cannot hear with the ear sounds that are clear to the old practitioner, the younger man has not learnt the meaning of temperaments or how to distinguish them and, above all, he has never acquired and perhaps will never acquire that intimate touch with his patients that the old family doctor had with his, that friendly close communion that brought cheer and hope to the patient and helped him get well to please his friend, the family doctor.

The Waves of Aggravation in the Course of Tabes

Foix and Lagrange note that fact that locomotor ataxia can develop in periods of aggravation after long stationary phases or periods of relative remission. They declare that in such stationary cases, it is not justifiable to assume that the only dangers to be guarded against are complications such as arthropathy and fractures.—(*Bull. Med. Paris*).

Treatment of General Paralysis

Potzl found distinct improvement in the cerebrospinal fluid and general condition of patients inoculated with malaria (Wagner-Jauregg's method). He considers it as the best treatment available.—(*Med. Klin.*, vol. 19, p. 1515.)

Diagnosis and Treatment

The Treatment of General Paresis by Malarial Infection

Interest attaches to cases of paresis treated by inoculating the patients with the malarial parasite. One of the most interesting reports of this kind has recently appeared in the *Brit. Med. J.* in which Templeton, quotes considerable literature and gives his own observations. He first points out that here seems to be evidence that fever, infectious or artificially produced, may to some extent influence the manifestations of paresis. Chemical substances, toxalbumins and the incidence of acute disease have all been found to possess some influence, and when Pilcz employed tuberculin his records showed a remission of the paretic symptoms in 26 per cent of his cases, eight of whom remained well three years after treatment. Templeton points out that the percentage of remissions after malarial infection is even greater and states that during a recent visit to Vienna he had the opportunity of studying a considerable number of these patients.

The plan followed is to withdraw from 2-4 cc of blood from the vein of a patient suffering from benign tertian malaria and then inject it intramuscularly. It seems to make little difference whether the febrile stage is present or not in the efficiency of this blood. The patient, usually within a week, develops typical attacks of malaria and he is permitted to suffer ten to twelve such attacks, after which the malarial infection is cured by the administration of quinin in the dose of 15 grains for three consecutive days and then 7 grains for four days.

It is worthy of note that these doses of quinin seem to be adequate, for the interesting question arises as to whether this would always be true and as to whether in a certain proportion of cases the physician might not have on his hands a patient who was suffering from two maladies rather than one, if perchance this plan of treatment failed to benefit the paretic symptoms.

The statement is made that during the febrile attacks of malaria there is an accentuation of the mental symptoms consisting mostly of auditory hallucinations and delusions of persecution, but in the majority of cases these symptoms have a tendency to disappear soon after the fever diminishes.

Of 330 cases treated, complete observations were made in only 296, and it is claimed that only 202 showed remissions of varying degree and 112 presented complete remission with disappearance of mental disturbance and a return to former business capacity, and this in spite of the fact that many advanced cases were included in the list. Three patients who were treated in 1917 are still actively employed at business and show no signs of relapse. In 17 the remission has lasted from two or three years and in 34 one to two years. Out of a total in which complete remission has been claimed only three have relapsed or shows any tendency to relapse, yet in all of these the disease was far advanced when treatment was instituted.

The method has not only been used in the Vienna Clinic, but elsewhere in Germany, and Templeton quotes Weigandt as having treated 50 cases with remission in 88 per cent and good remissions so-called in 48 per cent. The remissions do not immediately recur, but are gradual in their development.

One difficulty in the way of treatment has been to find a patient as a donor who was non-syphilitic and who had a benign infection, but with characteristic German boldness we are informed that under these circumstances this clinician has carried on the infestation from one paretic to another when in an original case the malarial infection was not to be had, which procedure is considered justifiable on the ground that each paretic patient has already been proved to be a subject of syphilis.

It is claimed, we are told by Templeton, that in cases of short duration entire success can be predicted with almost absolute certainty, but he adds this qualifying sentence, to wit: "This assertion can only be determined by wide-spread trial of the method."

An interesting point in connection with this report is the statement made that following upon the febrile attacks and following the quinin treatment, weekly doses of neosalvarsan are administered intravenously, commencing with 0.3 gm. for 6 doses, followed by 0.4 gm. and then four doses of 0.6 gm. The question naturally arises as to how much of the ultimate recovery for benefit is due to this arsenical treatment and how much is due to the malaria. Admitting that further trial must be made before definite results can be achieved, it is not to be forgotten that acute illness, accident, and operative procedures upon other portions of the body, or even the administration of a general anesthetic, may at times induce alterations in the course of chronic diseases, whether they be affecting the nervous system or other parts of the body.

We presume that there must be opportunities afforded medical men in areas where malarial infection is prevalent to study the effects of this infection upon patients suffering from paresis,

who may by chance be infected by the mosquito rather than by subcutaneous injection on the part of the medical attendant. If it is shown that under these circumstances little or no benefit results from malarial paroxysms the natural conclusion will be that the benefits to which we have referred result from the use of neosalvarsan or from the injection of foreign blood rather than from the effect of the malarial toxin.—(*Med. Gazette*, Nov. 19, 1925.)

The Parathyroids and Infection

The following interesting item appeared in Dr. Hallion's *Revue praitque de biologie appliquée* (June, 1924, p. 187):

"The parathyroids, according to P. E. Morhardt (*Vieméd.*, May 23, 1924), play a very important part in restorating the organic balance once the constitution has got the better of an infection. At all events, we know that the susceptibility to infection is conspicuously increased following removal of the parathyroids.

"This being so, one may inquire, with Vines, whether the struggle against the sympathetic phenomena (accelerated pulse, increased temperature, etc.) in the course of the infection could not be more effectively carried on by a frankly parasympathetic therapy than by the methods usually employed—bathing in cold water and antipyretics. In such case, the parathyroids should preferably be used. Treatment with these endocrine glands, therefore, would appear to possess far greater indications than given even in the most recent writings.

"Thus Vines has observed that rheumatoid arthritis usually responds, while Bramwell, Scott, and Cornelius have noted that parathyroid extracts yield satisfactory results in sprue and in pernicious anemia.

"Moreover, the parathyroids can be used in all those affections in which the sympathetic tonus, for reasons which we do not understand, is abnormally high, and which are expressed notably by vascular and trophic disorders— angioneurosis, Raynaud's disease, erythromelalgia, varicose and tabetic ulcers, and sympathetic algias. In one case in the latter category, Morhardt has seen very satisfactory results secured from a therapy in which parathyroid was the basis.

"Certain it is that parathyroid therapy has been far too much neglected by clinicians, and that in this field many valuable facts still remain to be garnered."—(*Endocrine Survey*, January, 1925)

Pituitary Substance by Mouth

Dr. Pierre Lereboullet, in his recently published manual on pituitary and epiphyseal syndromes (Paris: J. B. Ballière et Fils, 1924, p. 771), remarks that total pituitary extract, or post-pituitary extract by mouth, although in his opinion less active than subcutaneous injections, appears to be quite worth while, either alone, or combined with other glandular extracts. He is rather conservative, not to say cautious, however, when he writes: "I have used it [pituitary extract *per os*] a good deal during the past few years, and, while I have not been able to affirm its effect definitely, it has seemed to me to be of considerable benefit in growth disturbances and especially in dystrophies of adolescents with vasomotor disorders."

Heredity

Another link in this system which has lately been given much importance by the work of Guyer, of Madison, Wisconsin, in the production of hereditary blindness in rabbits by the injection of crystalline lens into pregnant rabbits, is organo-anaphylaxis. This means that we also have to deal with an inherited damage to the ova of any female by the degeneration and autolysis of any organ or tissue of her body. Consequently, diseases of the endoctrine system which result in the local degeneration and absorption of portions of the endocrine glands of the mother may mark all of her subsequent offspring with the stigmata of a deficiency of that particular link in the internal secretors.—(*The Medical Interpreter*, No. 6, Sec. 51.)

Therapy of Abnormal Endocrine Function

When through constitutional deficits, or, under the influence of unfavorable conditions, disharmonies of the hormonopoietic system arise, and evidences of hyperfunction, of hypofunction, or of dysfunction of one or more of the single endocrine organs appear, therapeutic intervention may become desirable. When a disease process has already developed, in other words, when an endocrinopathic personal variant has become incapable of satisfactory adaptation (state of irresponsivity), the physician may attempt to decrease function here, to increase function there, or to modify function elsewhere, in the hope of restoring balance, and of bringing the powers of personal adaptation again within the limits of normal responsibility.

Thus, in hyperfunction of andocrine organ, it may be desirable to excise a portion of it, or to curtail its activity by diminishing its blood supply (ice-bag; arterial ligation); or, by means of a depressive radiotherapy or chemotherapy. On the other hand, in the case of hypofunction, it may become desirable to resort to organ transplantation, or to a substitution therapy (administration of gland substance, or of gland extracts, or of isolated hormones), or to attempt to revive a failing function by a dietetic hygienic regimen, or by mild stimulative radio-therapy. —(*Endocrinology*, January, 1923.)

Amidopyrin (Pyramidon) in the Treatment of Measles

Max Loewenthal, of Würzburg, has for more than a dozen years employed amidopyrin (pyramidon) in the treatment of measles. In his opinion the results show it to have a specific curative effect. He goes on to say, "If given at the first appearance of the rash the results are as follows:

"1. Reduction of temperature to normal or nearly normal within twelve hours. This effect is permanent.

"2. The development of the rash is sometimes entirely, always partly, inhibited; if it has already affected the face, it will come out in only scanty spots on the trunk and extremeties. The spots which appear after its administration, moreover, are pale and evanescent. In one case I succeeded in preventing the appearance of the rash altogether in an undoubted case of measles in a family other members of which were already affected.

"3. The most important effect to the sufferer is an immediate euphoria; children who in the evening are prostrated and suffering great distress are cheerful and happy on the following morning. The testimony of adult sufferers is convincing on this point.

"4. Cough, coryza and conjunctivitis all clear up within a day or two.

"The average duration of the attack from the first show of the rash in untreated cases or cases treated by other methods is from two to four days; I have never seen any serious or distressing symptoms in those so treated after the first twenty-four hours. It therefore seems that this drug acts as promptly in measles as quinine does in malaria, or the salicylates in rheumatic fever. A drug which checks the onward march of the symptoms, and particularly the development of the rash, surely has the right to be called a specific remedy.

"The dose of adults is 12 grains three times a day, with or without Dover's powder to alleviate the cough."

For children, he has employed the following formula:

$$\frac{(\text{age} + 1) \times \text{dose}}{24}$$

The author has never seen any untoward effects from the drug, and believes larger doses may be given if they seem indicated.

Case 1.—D. F., a girl aged 9 fell ill on March 7, 1924. Cough developed on March 9th. The following day her temperature was 104°. There was a typical roseola on face and neck. He gave amidopyrin (Pyramidon) 4½ grains, pulv. ipecac, co. 2 grains, thrice daily. On March 11th the temperature was 99.2°; the patient was free from pain, and was comfortable; rash scanty and pale on trunk and limbs. On March 12th the temperature was normal and the patient absolutely well.

Loewenthal has found no references in medical literature to the use of this drug in the treatment of measles. The early amelioration of all symptoms promises a reduction in the frequency of dangerous complications, such as bronchopneumonia, and a parallel reduction of the mortality rate.—(*British Medical Journal*, July 12, 1924.)

Treatment of Arsphenamin "Encephalitis" with Sodium Thiosulphate

R. H. McBride, Iowa City, reports this case occurring in a boy, aged 4, after the administration of two 0.35 gm. doses of sulpharsphenamin intravenously and 5 mg. of mercuric chloric intravuscularly. He was given intravenously 0.46 gm. of sodium thiosulphate (0.03 gm. per kilogram of body weight) in a 5 per cent. solution every three hours for five doses. Later he was given 0.5 c.c. (7 minims) of a 1:1,000 solution of epinephrin hypodermically every four hours for five doses. Caffein citrate in 0.03 gm. (one-half grain) doses was given every four hours for five doses. Fluid was administered by mouth and by rectum, a large amount being taken. Apparently perfect recovery ensued.—(*J. A. M. A.*)

Prostate (Hypertrophied)

A patient, due to constriction produced by a hypertrophied prostate, was obliged to introduce a sound from two to three times a day in order to be able to micturate. After three months' glandular administration per mouth and rectum, the prostate has decreased in size (evidently lost some of the formerly encroaching connective tissue), and the patient is able to urinate freely without further instrumentation. Normal secreting cells have no doubt replaced the formerly encroaching connective tissue.—(*American Medicine*, June, 1924.)

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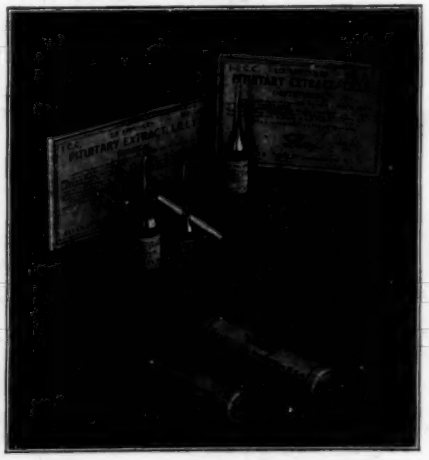

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